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Analysis and Empirical Study on Internet Finance

Analýza a empirická studie o internetových financích

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2. Description of the Internet Finance
3. Comparison between Traditional Banking and Internet Finance
4. Case study
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The declaration

"Herewith I declare that I elaborated the entire thesis, including all annexes, independently,"

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Content

1 Introduction

With the advancement of internet technology and the economic development of countries around the world, the development of the banking industry in various countries will involve the participation of internet finance. The goal of this thesis is the assessment of the development performance of internet banking and traditional banking under the current internet finance.

The rising development of the third party payment has also taken a great impact on traditional payment and settlement. Moreover, the source of banking income is severely based on the analysis of internet finance and the relaxation on traditional banking. Hence, it needs to enhance the benefits and improve the insufficiency to make a difference of financial industrial structure. In order to evaluate the different developments of the selected bank: HuaXia Bank, it will focus on the calculation of the profitability ratio and deposits rate, and calculate profitability of the selected bank.

The thesis divided into six chapters. The first chapter is introduction. The second chapter is the development of internet finance in different areas and the description of internet banking. The third chapter is devoted to describing the comparison of internet finance: the advantages and disadvantages of the traditional banking and internet banking. It also refers to the concept of basis of comparative analysis: profitability ratios and deposits rate. The fourth chapter focuses on the distinction between the HuaXia Bank’s traditional period and after joining the Internet business with concentrating on returns and risk assessment, fifth and sixth chapter compare the results and summarize the main findings in the conclusions.

2 Description of the internet finance

Internet finance is an organic combination of internet technology and financial functions. It relies on big data and cloud computing to form a functional financial market and its service system on an open Internet platform. It includes financial market system, financial service system, financial organization system, financial product system, and internet financial supervision system based on internet platforms. Besides, it possesses financial models such as inclusive finance, platform finance, information finance, and fragmentation finance which are different from traditional finance.

Besides, internet finance is a new type of financial business model in which traditional financial institutions and internet companies use internet information technology and communication technology to realize accommodation of funds, payment, investment, and information intermediary services. The deep integration of the internet and finance is a general trend and will have a more profound impact on financial products, businesses, organizations and services. Internet finance has played an active role in stimulating the development of small and micro enterprises and expanding employment, which is difficult for the existing financial institutions to replace, and has opened the door for popular entrepreneurship and innovation. Promoting the healthy development of internet finance is conducive to improving the quality and efficiency of financial services, deepening financial reforms, promoting the development of financial innovation, expanding the opening of the financial industry to the outside world, and building a multi-layered financial system.

The prosperity of internet finance is the result of the effective combination of traditional finance and internet information technology. Commercial banks have a relatively high level of asset management and mature risk control capabilities. The openness of the internet provides a friendly and efficient way for the development of banking services. The financial industry makes use of IT technology to make the flow of bank funds more smooth and effective. Besides the integration of IT technology and finance has unlimited possibilities for their own development. In financial marketing, banks can use more channels to sell more financial products and provide more extensive financial services. At this point it can be said that it is relying on internet finance.

2.1 The history of the internet finance

Internet finance appeared in the United States in the 1990s, but it is seldom called —Internet finance" at that time. Then online banking, internet insurance, P2P and other discrete forms exist. Due to the different levels of financial market development and financial regulatory environment, Internet finance is not as unique in the USA as China. But it also has its own development model. The following is the introduction of the internet finance in the USA:

- Internet payment
- P2P network lending
- Crowdfunding
- Internet banking
- Internet financial derivatives
- Internet technology applied to the financial industry

Internet payment

The world-famous third-party payments include the USA PayPal, Google Wallet, the Netherlands GlobalCollect, the UK Worldpay and so on. In the USA, credit card spending covers almost all areas of consumption, so consumers' demand for new online payment methods is not strong, resulting in insufficient incentives for innovation. In recent years, with the popularity of mobile internet and smart phones and the explosive growth of mobile social platforms, the USA has realized that there is huge room for development of mobile payment. As a supplement to internet payments, developed network infrastructure in developed countries provides a good foundation for mobile payments, and mobile payments can significantly improve users' experience and reduce the cost of credit card fees.

The core area of internet finance today is mobile payments. Its leaders include Google Wallet, Square, Stripe and others. Square was founded in December 2009 in San Francisco, USA. Its two business systems are readers and convenient mobile payment systems. As of the end of 2011, the number of companies using square has exceeded 1 million, accounting for one-eighth of all credit card payment providers in the USA, and adding 100,000 new merchants each month. Wall Street's Citigroup venture capital firm, JPMorgan Chase Bank, Digital Growth Fund and Sequoia Capital all invest in Square. In 2016, its valuation was as high as 5 billion U.S. dollars. One of the main costs of Square is the commission paid to each bank, followed by the reader hardware, and the third is the development and operation of the team. The main revenue is trading commission, which takes up currently 2.75% of the transaction amount.

P2P network lending

In March 2005, Zopa, the world's first P2P network lending platform, went online in London. The United States P2P network lending platform Prosper and Lending Club went online in 2006 and 2007 respectively. Internet loans are more flexible and convenient than bank loans, and are quickly copied around the world, such as Auxmoney in Germany, Aqush in Japan, Popbanding in Korea, Comunitae in Spain, Uppspretta in Iceland, and Fairplace in Brazil.

Lending Club is registered with the USA Securities Regulatory Commission and provides secondary market investment, margin financing, loan transactions, debt-guaranteed bonds and other services. Prosper won Google's investment of up to 150 million dollars, but it was ordered to suspend in 2008. It was seriously injured in replay next year and currently becomes only a half of Lending Club.

The loan club first evaluates the borrower's credit rating, determines the loan interest rate based on its credit rating and loan period, and then announces the loan amount, interest rate, and rating after the audit. This allows investors to choose their investment goals according to their preferences and decide for themselves that each borrower's amount is not less than $25 each. There is no direct capital flow between investment credit companies and creditor's rights and debts. Investors only purchase the certificate of beneficiary rights issued by the platform and face the loan amount, which is equivalent to the securitization of loan assets. After rating investors, they passed the designated bank WebBank. The borrower reimburses the Lending Club platform after deducting the management fee and transfers the investor. Certificates of beneficiary rights can be transferred and traded on the broker company Folio Investing. After the success, Folio Investing charges the seller 1%. Lending Club also makes full use of the trust relationship between friends on Facebook. It regards Facebook membership certificate as an additional credit, thereby enhances the credibility and security.

Crowdfunding

The earliest crowdfunding website was "Crowdfunding Pioneer" ArtistShare established in the United States in 2001. It is mainly for music artists and fans. The most representative global equity crowdfunding platforms include Crowdcube in the UK and Fundable in the USA. Non-equity crowdfunding platforms include Kickstarter and IndieGoGo in the USA, and Idea.me in Latin America.

The world's largest and most successful crowdfunding platform is Kickstarter, which was established in April 2009. Its crowdfunding projects include 13 categories including art, comics, dance, design, fashion, film and video, and are positioned as "the world's largest creative project financing platform". Kickstarter has been profitable since 2010 and has successfully provided startup funds for a number of start-up companies. In 2013, 3 million users participated in a Kickstarter project with a total of 480 million U.S. dollars in crowdfunding projects. The average daily financing was 1.3 million U.S. dollars. The amount of subsidy per minute was 913 U.S. dollars. Among them, more than 800,000 users participated in two or more crowdfunding programs. And 81,000 users support more than 10 projects, and finally it realized the success of the 19911 project.

Internet banking

Internet banking first appeared in Europe in the 1980s, but in October 1995, the establishment of SFNB in the USA was considered to be the true symbol of the birth of online banking. Compared with traditional banks, internet banking has a natural competitive advantage - no branches, low staff and operating costs.

ING Direct USA is one of today's largest Internet banks, previously a subsidiary of the Dutch ING Group, aiming to expand its retail banking business in the USA. In 2012, ING Group sold ING Direct USA to Capital One, a US bank, for US$900,000.

The main feature of ING Direct USA is a clear target customer base. They are all familiar with the internet, have good income and are sensitive to interest rates and prices. They are not rich and do not need too much financial services, but they all want to be able to get higher returns on savings and faster trading processes. ING Direct USA has a small size, but it is profitable with high interest rates and low interest rates. By the end of 2006, the company had opened up more than 100,000 customers for half a year to reach 4.9 million customers. The large customer base provides a strong resource background for its sales strategy in the small market. ING Direct USA's product strategy has four main directions: firstly, to provide limited product selection for direct sales channels; secondly, to focus on third-party products, and to obtain instant-currency fund relevancy; thirdly, to simplify the convenience of –self-service” products; at last, there is no minimum deposit limit.

Internet financial derivatives

In the USA, the earliest online securities transactions have already taken place. The development of internet securities brokerage business is the most mature. Its features include online account opening, online trading, online fund collection and payment, and online sales. The brokerage giant Merrill Lynch, Schwab Finance and Evonik each have different characteristics. In 1992, the establishment of EvoOne Finance was catching up with the second wave of commission cuts. Its first commission price war is one of the lowest commission rate and highest click-through rate in the same service class, leading the business to competitor Schwab Financial. The site uses a clear, easy-to-use interface and is loved by customers.

Since 1997, Axiom Financial has expanded its global presence and has expanded to Australia, Canada, Germany, Japan, the UK, South Korea and Hong Kong. At the same time, it has fully expanded its retail stores, established "five financial centers" in New York, Boston, Denver, Beverly Hills and San Francisco, and established more than 11,000 automated network counters for customers throughout the community. The third feature is a massive amount of information resources covering banking, securities, insurance, taxation, stock options and other industry information and research reports. It cooperates with Ernst & Young to provide financial information services, providing a full range of mortgage loans, insurance, retirement plans, online financial consultants and other service. E-banking only does purely low-end channel services, with an average commission of approximately US$10 per unit. It can also discount customers who are sensitive to price but have low service requirements.

Globex was established by CME Group in 1992 and is the world's first futures options electronic trading system. Investors can access the platform of online trading of agricultural products, including metals, energy, interest rates, stock indexes, foreign exchange real estate and weather futures options for 24 hours a day and 6 days a week from more than 150 countries and regions.

Internet technology applied to the financial industry

USA is a pioneer in the application of internet technology to the financial industry. At present, the main global internet finance model comes from the USA. From the perspective of U.S. Internet finance development, as early as the late 1990s, the most mature and complete internet financial industry chain was formed. Although most Internet finance models did not eventually become independent financial forms, they have had a huge and far-reaching impact on American financial institutions and financial markets. On the one hand, the information network technology represents that the Internet has broken geographical distance and restricted the development of financial services. The economies of scale of the U.S. financial sector, especially the banking sector, have also enabled commercial banks to expand their asset sizes through mergers and acquisitions, making economies of scale technically feasible. Internet technology, on the other hand, reduces the availability of information. The cost processing and dissemination based on standardized information became possible, and asset securitization and various derivative financial transactions became unprecedented declines, which made the USA financial market liquidity rise unprecedentedly. Obviously, without the development of internet finance, the U.S.

banking industry will not see a wave of mergers and acquisitions. By the late 1990s, financial innovation was rapid, excessive innovation triggered by the subprime mortgage crisis and the global financial crisis. The structural changes facilitated the financial development of the USA, especially the financial system.

Of course, the development of Internet finance in the USA has already had an impact on traditional financial institutions, especially aggravating financial disintermediation and exerting pressure on commercial banks. However, large-scale commercial banks in the USA can effectively solve the internet financial model by actively integrating information network upgrades, launching targeted online financial services, flexible and diverse financial innovations, and direct acquisition of emerging Internet and other means.

2.2 The development model of internet finance

There are six main points in the development model of internet finance: crowdfunding, P2P network loan, third party payment, big data finance, informationized financial structure and financial portal.

- Crowdfunding
- P2P network loan
- Third party payment
- Big data finance
- Informationized financial structure
- Financial portal

Crowdfunding

Crowdfunding means public financing or crowdfunding. It refers to the mode of raising project funds to netizens in the form of group buying and pre-ordering. The purpose of crowdfunding is to use the characteristics of the internet and SNS communications to allow startups, artists or individuals to show their ideas and projects to the public, to win everyone's attention and support, and then to obtain the financial assistance needed. The mode of operation of crowdfunding platforms is almost the same – individuals or teams that need funds will give project planning to crowdfunding platforms. After relevant audits, they can create their own pages on the platform's website to introduce the project to the public.

P2P network loan

P2P means Peer-to-Peer lending or point-to-point credit. P2P online lending refers to the matching of borrowers and lenders through third-party internet platforms. People who need to borrow can find people who have lending ability and are willing to lend on certain conditions through the website platform. They can help lenders pass through with other lenders. Sharing a loan line to spread the risk also helps the borrower to select attractive interest rate conditions in the information for full comparison.

The two operating modes, the first is the pure online mode, which is characterized by the capital lending activities that are carried out through the line, not combined with the offline audit. Usually the measures are adopted by these companies to review the borrower's qualifications include video certification, bank flow billing, and identity verification. The second type is a combination of online and offline services. After the borrower submits the loan application online, the platform checks the borrower’s creditworthiness and repayment ability through the household survey conducted by the agent in the city.

Third party payment

Third-party payment (Narrow-Party Payment) is a non-banking organization with certain strengths and reputation guarantees. With the help of communications, computers, and information security technologies, it uses contracts with major banks to establish a relationship between users and bank payment settlement systems with connected electronic payment mode.

According to the definition of non-financial institution payment services given by the Central Bank in the "Measures for the Management of Payment Services for Non-financial Institutions" in 2010, third-party payment refers broadly to the network provided by non-financial institutions as payment and payment agents. Payment, prepaid cards, bank card receipts and other payment services are determined by the

People's Bank of China. Third-party payment has not only been limited to the initial Internet payment, but has become a comprehensive payment tool with comprehensive online and offline coverage and rich application scenarios.

Big data finance

Big data finance refers to the collection of massive unstructured data. Through real-time analysis, it can provide Internet financial institutions with all-round information about their customers. Through analysis and mining of customer transactions and consumption information, they can grasp customer's spending habits and accurately forecast customers. Behaviors enable financial institutions and financial service platforms to target their marketing and risk control.

The financial services platform based on big data mainly refers to the financial services carried out by e-commerce companies that have large amounts of data. The key to big data is the ability to quickly obtain useful information from large amounts of data, or the ability to quickly realize the use of large data assets. Therefore, information processing of big data is often based on cloud computing.

Informationized financial structure

Information-based financial institutions refer to financial institutions such as banks, securities, and insurance that are fully electronically operated and managed through the transformation or reconstruction of traditional operational processes through the use of information technology. Financial informationalization is one of the trends in the financial industry, and information-based financial institutions are the product of financial innovation.

From the point of view of the entire financial industry, the bank’s information construction has been at the leading level in the industry. It not only has an international leading financial information technology platform, but also has built a three-dimensional electronic banking service system consisting of self-service banking, telephone banking, mobile banking, and online banking. In addition, with the informationalization of large-scale data-intensive projects in the industry leader, in addition to innovative financial services based on the Internet, it also formed a "three doors," "internet banking, financial products supermarkets, e-commerce," a delay of three financial e-commerce innovation service model.

Financial portal

The internet finance portal refers to the platform that uses the internet to sell financial products and provide third-party services for the sale of financial products. Its core is the "search price comparison" model, which uses the vertical parity of financial products to place the products of various financial institutions on the platform. Users compare and select the appropriate financial products. The diversified innovation and development of Internet finance portals have formed third-party wealth management institutions that provide high-end financial investment services and wealth management products, and insurance portal websites that provide insurance product consultation, comparison, and purchase services. This model does not have too many policy risks because its platform is neither responsible for the actual sales of financial products nor does it bear any unfavorable risks, and the funds do not pass through the middle platform at all.

2.2.1 The development of internet finance in China

Next there is an introduction the development of internet finance in recent years in China, here as follows：

- Various modes of internet finance development
- Innovation of internet financial model
- The expansion of internet finance

Various modes of internet finance development

As mentioned earlier, broad internet finance covers six modes of traditional financial business networking, third-party payment, big data finance, P2P network lending, crowdfunding and third-party financial platforms. The model emerged during the development of China's internet finance at the stage. Among them, the networked mode of traditional financial services refers to the traditional financial institutions such as major banks, securities companies, and insurance companies, through the establishment of internet banking, internet securities, and internet insurance platforms to achieve internet transfer, internet investment and wealth management, internet fund lending and internet securities. The model of traditional financial services has insurance transactions, the provision of related information services and so on; the third-party payment model refers to the third-party payment platform signed by major banks at home and abroad to eliminate information asymmetry between buyers and sellers in e-commerce transactions. It provides a payment service model for both parties; the big data financial model refers to the massive and unstructured data generated by relying on e-commerce transactions. Through specialized data mining and analysis, it provides a financing service model for fund demanders; the P2P Internet lending model refers to the mode that the capital supply and demand sides directly use third-party Internet platforms for fund lending; the crowdfunding model refers to the mode in which capital demanders display ideas and projects on the Internet and provide returns and raise funds; the tripartite financial service platform model refers to the construction third-party financial services platform to sell financial products or for the sale of financial products and services mode.

Innovation of internet financial model

In the scope of the above-mentioned internet finance model, in recent years, especially since 2013, the reduction in the cost of financial transactions and the reduction of information asymmetries in the course of financial transactions have been reflected in the penetration of internet technology into the financial sector. With the deeper understanding of the degree and the enhancement of the efficiency of financial transactions and other advantages, the model content of China's internet finance development has also been continuously innovated and enriched. The innovative and rich contents of these models are prominently reflected in the following three aspects: banks' online lending business; third party payment; P2P network lending. First of all, in the aspect of online lending services carried out by banks, the bank’s online lending business has traditionally been ―underlined, offline, approved, and distributed online,” and content has been developed through ―bank plus e-commerce platform” and ―Bank self-built e-commerce platform”. Secondly, in terms of third-party payment, independent third-party payment, secured third-party payment third-party payment tools and funds in insurance cooperation for financial management have innovative development of Next, in terms of P2P network lending, the content of the purely information intermediary service platform has been innovatively developed to cooperate with P2P platforms and guarantee agencies, online and offline integration, and creditor rights transfer.

The expansion of internet finance

Since 2008, the scale of the internet financial model such as internet banking, third-party payment, and P2P network lending in China has grown rapidly. Among them, the transaction volume of internt banking has rapidly increased from 285.4 trillion yuan in 2008 to 1549 trillion yuan in 2014. The amount of transactions paid by third parties also increased rapidly from 3 trillion yuan in 2009 to about 23 trillion yuan. Although the market has become saturated, the growth rate has declined, but it has also reached more than 18.6%. The transaction volume of P2P network lending increased rapidly from RMB 150 million to RMB 3292 billion, and the growth rate even reached about 200% during the period. With the development of the third-party payment tools and fund cooperation form, the number of users of the Yuhangbao product reached 185 million, and the total size reached 578.9billion yuan by the end of 2014.

2.2.2 The development of internet finance in Europe

At present, the European countries' total economic output in 2015 has exceeded 16 trillion Euros and ranks second in the world. The long-term construction of soft hardware such as laws and regulations is quite mature. However, the total market size of internet finance, which represents the future direction of financial development in the region, was only 5.4 billion euros in 2015, which is about one-third of the minimum monthly turnover of China P2P online lending in 2016 (calculated at the middle exchange rate of 7.3). In general, the European market is smaller, at a cost of approximately 1.019 billion euros, which is less than 70% of the successful funding scale of China crowdfunding platform in 2015.

The following is the collection of data from 367 platforms in 32 countries in Europe, illustrating the development and growth trends of Internet finance in Europe. The main points are here as follows:

- European countries' internet financial market scale
- European P2P consumer loans
- Institutionalization of related platforms

European countries' internet financial market scale

In 2015, the scale of the European internet finance market increased by 92% year-on-year to 5.431 billion euros. During the same period, the UK transaction volume was 4.412 billion euros, which dominated Europe and accounted for 81%. Regardless of the UK, the size of the European market in 2015 was 1.019 billion euros. The market size of France, Germany and the Netherlands ranks in the top three. The French market reached 319 million euros, Germany 249 million euros, and the Netherlands 111 million euros.

European P2P consumer loans

P2P consumer loans are the largest development model in the European market. In 2015, it reached 366 million euros. P2P commercial loans ranked second with 222 million euros. Thirdly, equity-based crowdfunding has 159 million euros. The amount of corporate financing on the platform has increased significantly. In 2015, more than 9,400 start-ups and SMES raised a total of 536 million euros of funds with an increase of 167% from 2014 of 201 million euros. This is mainly driven by P2P commercial lending.

Institutionalization of related platforms

The level of institutionalization of the platform has increased. 26% of P2P consumer loans and 24% of P2P commercial loans come from institutional investors such as pensions, mutual funds, asset management companies, and banks. 8% of the equity crowdfunding comes from venture capital companies, angel investors, family wealth managers, and fund companies. There are clear differences in the views of the platform on the existing domestic supervision. 38% of the regulated platforms feel that their country's regulation of P2P online lending and crowdfunding is sufficient and appropriate; 28% of the regulated platforms believe that the current supervision is too relaxed.

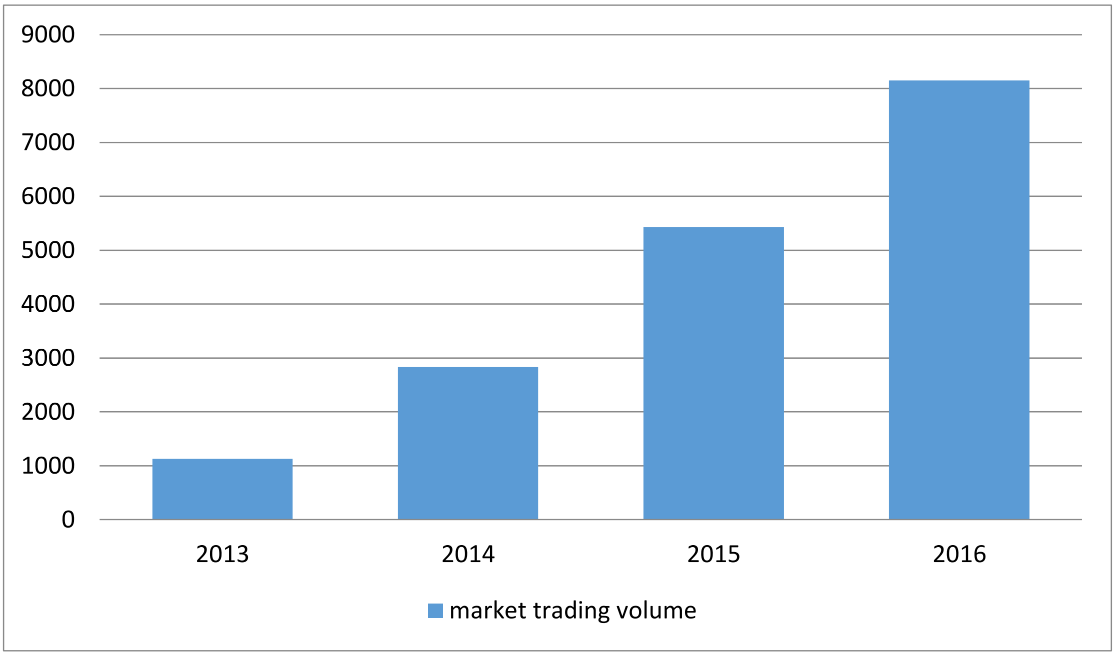
2.2.3 The growth confusion of internet finance in Europe

In theory, on the basis of a huge amount of economic development, a relatively complete legal system, and a relatively mature regulatory mechanism, the market size of internet finance in Europe should grow swiftly, taking into account the volume of transactions in 2013 and 2014[See Figure3]. With a low base, it is expected that a leap in market size will occur. However, the report estimates that the year-on-year growth rate of the European internet financial market in 2016 is 50%, which is far lower than the growth rate of 92% in 2015[See Figure4].In terms of development trends, the growth rate is close to a low level, and for a new market with a small scale base, the outlook is bleak. It can be said that this is the main obstacle to the development of Internet finance currently in Europe, and the response measures will be mentioned later in this article.

Following Figure 1 and Figure 2 shows the status quo and trend of the growth of internet finance market in Europe.

Figure 1 The status quo of internet finance market in Europe

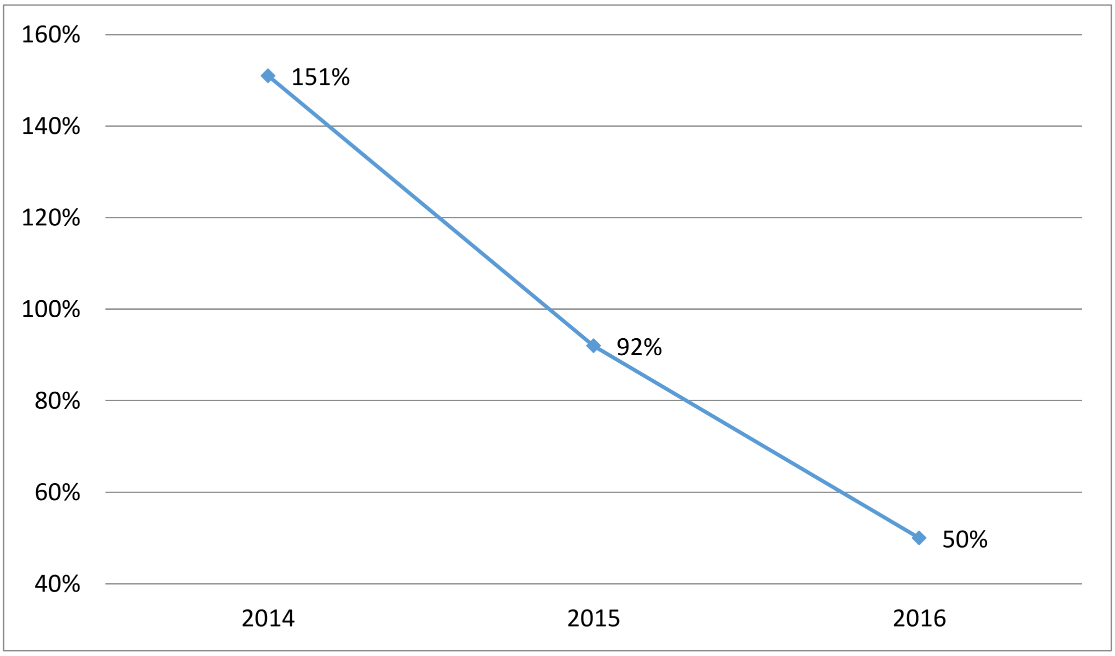
Unit: millions of euros



Source: Cambridge University, Home of Credit (https://www.stats.gov.cn/)

Figure 2 The trend of the growth of internet finance market in Europe

Unit: %



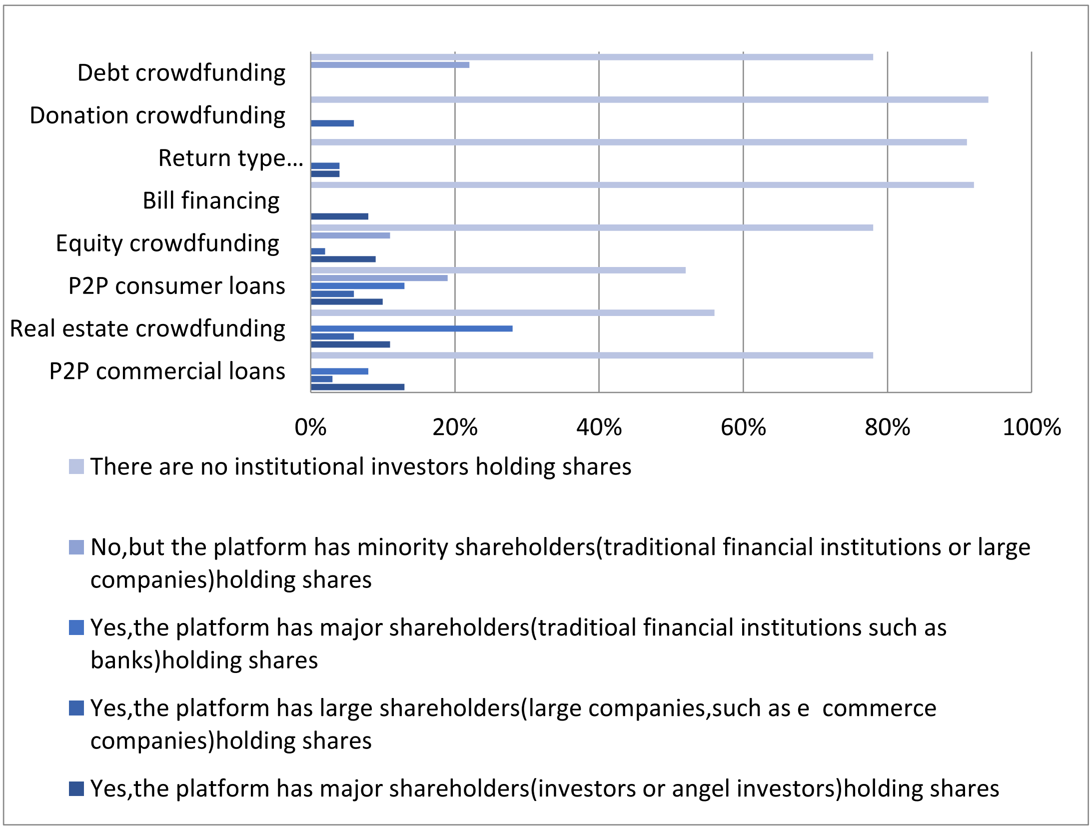
Source: Cambridge University, Home of Credit (https://www.stats.gov.cn/)

From a microscopic point of view, the European internet financial platform has the advantages shared by the new financial model, the accelerated transformation of financial services to digital trends, creating a favorable growth environment for the development of internet financial institutions with low operating costs, flexible operating methods, and significant user borrowing experience, which allows internet financial institutions to take a leading position. Customers of internet financial institutions outside the scope of services of traditional financial institutions do not constitute direct competition between the two. Moreover, more and more large financial institutions in Europe share shares in platforms that occupy larger market sizes, which shows that the new financial development model is recognized by established financial institutions.

Following Figure 3 shows institutional shareholdings in Europe internet finance models.

Figure 3 Institutional shareholdings in Europe internet finance models

Unit：%



Source: Cambridge University, Home of Credit (https://www.stats.gov.cn/)

From a macro perspective, the European Central Bank has been continuing its large-scale purchase of bonds, aiming to lower the euro interest rate to a level close to zero, thereby stimulating bank lending and boosting European economic development through investment. Some non-euro currency countries even implement negative interest rate policies, such as Switzerland and Denmark. Convergence of the interest rate to the 0 level is not conducive to the development of traditional financial institutions such as banks, but it is good for online lending institutions because the credit scores of major customers of online lending institutions are low and the credit risk is high. The interest rate is at a low level, which reduces the cost of borrowing for customers and makes their default risk lower, which will stimulate the increase in online loan transactions. Therefore, from the point of view of the euro interest rate, European net lending institutions are undoubtedly in the feast of capital bubbles. The feast never stops and the dance is not stopped. The market scale of European internet financial institutions should take advantage of the rise.

Regardless of microscopic observations or macroscopic analysis, the market scale of European internet financial institutions has the basis and conditions for accelerating and expanding.

2.3 The first internet bank

In the 1980s, in order to eliminate economic downturn, USA made major adjustments of economic and financial structure. And the key development of the information industry has led to the rapid development of the computer industry and network technology. The popularization of computer technology and network technology has led to the development of e-commerce in the USA. It has also brought vitality to the US financial industry, and it also provided a broader range of activities and convenience for financial activities. At the same time, the evolution of the financial disintermediation process made it increasingly difficult for traditional banks to adapt to changes in the market environment. As a result, internet banking has emerged.

The world's first internet bank named Secure First Internet Bank. It was established in USA on October 18, 1995. It does not have a physical network or management system. There is just one office address and more than a dozen employees. But it provides almost all the services of a traditional commercial bank. The difference is that most services are provided through the internet, and they provide users with 24-hour service through the internet. The emergence of the USA Security First Internet Bank opened up a new type of financial business model.

2.4 Internet banking1.0

There is the development of internet finance in the front. Next we will elaborate on the emergence and development of internet banking in the context of internet finance.

With the development of internet finance, the global scientific and technological financial industry is undergoing rapid and profound changes. The combination of technology and financial innovation in the business model with the development of the internet banking industry is in the ascendant. China Minsheng Bank’s Tencent system and Alibaba’s Zhejiang Netcom Bank borrowed from developed European and American mature banking models and began to penetrate the Chinese market. Digital Bank, represented by Digital Bank of America, quietly developed and expanded the internet, resulting of the new wave of Bank 2.0. From the perspective of the best business practices in Europe and the USA, the internet banking industry has begun to develop from the 1.0 model represented by direct banking to the depth of the 2.0 model represented by digital banking.

Internet Banking 1.0 means that internet banking generally refers to Direct Banking or Direct Selling Banking. It refers to services that were not passed through traditional counters and business outlets, but were transmitted through letters, telephones, mail, ATMs, and later through the internet or terminals. Its main features are: no business outlets, the key of which is to use independent legal personality to operate independently, rather than as an independent department of large banks; no so individual push of financial products due to higher and relatively simple efficiency; target population that are sensitive to interest rates and willing to go online to select and judge people; quick and efficient operation on the internet.

2.5 Internet banking2.0

Internet Banking 2.0 is a new model of internet banking developed on the basis of mobile phones. Internet Banking 2.0 is also known as Digital Bank or Mobile Bank in developed regions such as Europe and the USA. It is a new type of bank and a combination of mobile services and remote banking services, finance and technology. It does not help banks which generally do not have independent banking licenses, but instead choose to cooperate with traditional banks to conduct business. Customers' deposits enjoy the same protection of deposit insurance as cooperative banks. Internet Banking 2.0 is similar to an outsourced financial technology company whose business is completely connected with banks, and which provides innovative technical services outside the banking system to enhance user experience. The following is a typical example of internet Banking 2.0 on behalf of companies and their cooperating banks.

The main features of Internet Banking 2.0:

There are main seven points about internet banking 2.0, here are as follows:

- Providing all banking services remotely
- Financial technology corporation plus cooperative banking model
- Debit cards
- Check photo to deposit
- ATM machine withdrawals are free
- Cooperative supermarket cashiers can access cash
- Free transfer via mobile phone

Provide all banking services remotely

There are no counters and no physical counters. It is all based on the mobile phone by opening an account, applying for a new card when the old card expires, and a mobile phone APP with a pin card can all be realized. When opening an account, the client only needs to upload the ID or driver's license picture in the mobile phone APP, and fill in some basic personal information through the APP. After the system is approved in the background, the remote account opening will be completed; when the account is cancelled, only the APP click and apply for the account will be required, Then you can cut the card by yourself.

Financial technological corporation plus cooperative banking model

The vast majority of internet Banking 2.0 is a financial technology enterprise and does not have its own banking license. However, through cooperation with traditional banks and the banking license of cooperative banks, customers of 2.0 banks can also enjoy the protection of deposit insurance. Using such a cooperation model, financial technology companies can rely on the long-established brand, customer base, and social credibility of traditional banks, which has a huge supporting role for start-up technology companies to gain customer trust. In contrast, due to regulatory requirements, traditional banks do not have the freedom to develop innovative businesses like financial technology companies. Therefore, cooperation between traditional banks and financial technology companies also provides a great deal of space for traditional bank expansion. More importantly, the application for bank licenses is subject to strict supervision in all countries of the world. There are clear regulations on the capital, liquidity, risk control, capital adequacy ratio, non-performing loan ratio, and provision coverage ratio of companies. For start-up fin-tech companies to obtain bank licenses, the cost of capital needed to invest and the future regulatory oversight are too large. Therefore, cooperation with traditional banks is a good choice to complement their advantages to become a universal operating model.

Debit cards

Like VISA or Master card, they are sent free of charge. Deposits are protected by deposit insurance. There is no minimum deposit requirement.

Check photo to deposit

The check can be deposited by taking a photo, the customer manually fills in the check amount and signs; point the camera ID of the ―check into” option in the APP homepage. After entering the camera mode, the camera will be photographed on the front and back of the check. After the APP reads the check information, the account of the customer's APP will automatically display the check just deposited. The amount of money fulfills the customer's demand for deposits at anytime and anywhere, eliminating the need to go to the counter or look for ATM machines to limit deposits.

ATM machine withdrawals are free

APP has a smart search function near the ATM. Digital Bank customers are exempted from processing charges at all ATMs participating in the cooperation, and the mobile phone APP provides a map search function of the ATM machine near the customer's location and automatically generates a nearby ATM machine list function from near to far.

Cooperative supermarket cashiers can access cash

Digital Bank cooperates with large supermarkets. Customers at supermarket checkout counters use cash registers to swipe their bank cards，or scan code readers to scan mobile phone's APP bar codes，then hand over the cash to the cashiers. The customer's APP account will immediately increase the corresponding amount. Cash amount deposited.

Free transfer to mobile phone

The customer only needs to enter the payee's e-mail or mobile phone number in the APP, the payee can receive the transfer in real time, and the service is free; transfer to other bank accounts also free of all charges. After the transfer is successful, the payee will receive a corresponding SMS notification.

Every consumption is recorded in real time, and consumption is categorized and analyzed according to major items such as transportation, communication, food, and clothing.

3 Comparison between traditional banking and internet banking

3.1 Traditional banking: commercial bank

Traditional banks generally refer to the large-scale banking system formed by the Soviet Union and the late 1920s and early 1930s, with highly centralized financial services and relatively simple institutions.

Nowadays，Banks generally refer to commercial banks which are financial institutions that provides banking and other financial services. They represent the most important financial intermediary. The banking licenses are granted by financial supervision authorities and provide rights to conduct the most fundamental banking services such as accepting deposits and making loans. With the funds raised through deposits and funding sources, banks make loans to various entities and invest in securities.

A commercial bank is a financial institution that provides a wealth of financial services. A commercial bank is a currency and capital operation of a financial enterprise. It has an independent civil capacity. Commercial banks manage independently and self-raised funds according to laws. The bank's corporate assets and liability are independent. The following paragraphs explain the business of commercial banks. Commercial banks have a large amount of business, and we can divide them into four parts.

The first part is asset business, such as cash asset business, credit business, investment business, and discount business. The second part is debt service, such as deposit business and other business. The third part is the intermediary business of commercial banks; it has settlement intermediary business, guarantee intermediate business and other intermediary business. The last part is the international business; it contains foreign exchange business, international trade settlement business and foreign exchange capital business of the commercial banks. Like central bank, commercial bank has its own function. The main function of commercial bank are as follows.

- Credit intermediary function
- Payment intermediary function
- Increase the source of commercial bank funds

Credit intermediary functions

A commercial bank is an enterprise that operates currency and currency capital. Commercial banks need a lot of funds when they run a loan business, and this fund mainly focuses on funds from deposits and other forms of absorb funds.

Payment intermediary function

It can also be named as the fund management function, this function is mainly in its indirect business, including foreign exchange business, collection business and agency business. This is the main way to attract customers and provide social wealth services for commercial banks. The credit creation function, which is the most distinguishing feature from other financial institutions. When commercial banks absorb deposits, they will make bank loans, and on the basis of cheque circulation and transfer settlement, bank loans can be converted into deposits. Besides, depository institutions will not withdraw.

Increase the source of commercial bank funds

At the end of process derivative deposits, the entire bank system can be formed in the original deposits, that is, the bank credit function. This is the credit creation function. The function of commercial banks to create financial instruments has created a lot of financial instruments between debt services and intermediary services, such as transferable.

3.2 The comparison between internet banking and traditional banking

Internet banking is a new kind of financial institution based on banking business. It is the inevitable result of the development of computer technology and internet applications. Judging from its essential characteristics, it not only has the common characteristics of traditional banks, but also has its own uniqueness. Through the comparison between internet banking and commercial banking, it can understand the advantages and disadvantages of internet banking and traditional banking clearly, and use it as a starting point to lead the supervision and innovation.

3.2.1 The comparison of virtuality

The branches of traditional commercial banks constitute a physical network. The operation of the entire commercial bank is also tangible. However, internet banking itself exists in the virtual electronic space of the internet. Therefore, it has no visible landmarks. If there is just a virtualized URL without a specific address, users can only perceive its subtle presence through mobile devices. The characteristics of cyber banking virtualization will be demonstrated in the following three aspects: Firstly, people-oriented outlets in the traditional commercial banking physical network will be replaced by unmanned terminals of internet banking. Secondly, the intangibility of financial products will be operated by internet banking. For example, electronic money, online wealth management and online shopping will have no specific form. Thirdly, the virtualization of internet banking business processes is the entire process that operating all products of online banking is accomplished through digital instructions.

3.2.2 The comparison of cost

From the perspective of bank shareholders, the biggest difference between internet banking and traditional banking is the low cost of internet banking operations. Firstly, the cost of creating internet banking is low. The traditional banking practises the business model of business outlets. It requires not only a large amount of infrastructure construction costs and business outlet rents, but also a large number of pay employees to manage the daily operations of branch banks. However, internet banking does not require these tangible storefronts, decorators or even branch offices. The geographic location of the business outlets will not be a factor in the performance. The creation fee of the first internet bank in the world, the First Secure Internet Bank, was only US$1 million, which was equivalent to the cost of starting a small branch banking institution at that time.

Secondly, the operating costs of internet banking are low. Networking of business models can greatly reduce the cost of the entire operating process. The flexible application of internet technology has changed the face-to-face service mode of traditional bank staff and customers. The “virtual cyberspace” opened by internet banking has made bank customers spread out among different computers and mobile clients.

Thirdly, the cost of internet banking services is low. Internet banking provides customers with various financial services through the internet. The application of internet technology can simultaneously provide services for a large number of customers, effectively saving the waiting time for customers and improving the customer service experience. The improvement of bank working efficiency means extending bank unit time. The increase in business volume and increase in business volume can also reduce the operating costs of internet banking.

Fourthly, the loss of network banking mistakes is little. The standardization and automation of network banking service functions have also greatly reduced the errors of human services, thereby reducing the losses of banks and reducing the operating costs of banks.

3.2.3 The comparison of risks

The risks which are mentioned here are mainly as follows:

- Technical security risk
- Liquidity risk

Technical security risk

The issue of security and stability of network banking systems are very prominent. Search engines, cloud computing, big data and other new technologies have brought new security risks to network data and personal information. Internet finance business is highly dependent on credit, consumer records, personal identity and property information. However, there is a certain degree of non-standardization in all aspects of information collection, storage, use, and circulation. For example, cloud computing services may be fragile; larger data comparisons and stronger correlation analysis capabilities enable the original encrypted anonymous user information to be abstracted and reconstructed, leading to leakage of user information and other risks.

Liquidity risk

Because internet banking exists in cyberspace and there are no physical store restrictions, the financial stability of deposit and loan business is worse than that of traditional banks. In addition, internet banking is more difficult to manage liquidity risk than traditional banks. In terms of deposit insurance, traditional banking have more advantages than internet banking, because traditional banking have multi-level credit guarantee systems, such as government credit implicit guarantees and state-owned credit guarantees. Therefore, for depositors' "security" considerations, depositors will be more inclined to choose traditional banks. Therefore, internet banking faces a strong source of deposits from competitors, especially the large loss of large depositors. In the short term, deposit customers can hardly absorb liquidity risk.

3.2.4 The comparison of asset and liability structure

The asset and liability structure which are mentioned here are mainly as follows:

- Asset structure
- Liability structure
- Income structure

Asset structure

In terms of debt structure, due to the fact that internet banking is not very mature, traditional banks still have certain advantages in absorbing deposits. However, with the continuous development of the internet industry, internet banking has more obvious advantages in information response and transaction speed. Through various value-added services, internet banking will absorb more deposits.

Liability structure

In terms of asset structure, internet banking sub-lending still needs to carry out people's wage letter assessment, but traditional banking only need to handle it by themselves, so internet banking does not have a great advantage in this aspect. However, through internet banking, large amounts of securities can be invested. It allows customers to hold new trading instruments and traditional trading instruments at the same time. This makes the non-loan funds in internet banking still occupy a considerable proportion.

Income structure

In terms of the income structure of deposits and loans, traditional banking can only earn income through the interest rates of deposits and loans. And internet banking does not only in this condition. It has increased the number of intermediate businesses, such as online advertising, information processing and sales. Sources of income provide conditions for internet banking's non-interest income.

3.3 The advantages of internet banking and traditional banking

Traditional and internet banking have both advantages and disadvantages. First, the following are the advantages of traditional banking and internet banking.

Internet banking

Here are three advantages of internet banking. It can be as follows:

- A quick and effective way
- The low cost of information symmetry
- Broad coverage of internet finance

A quick and effective way

There are fast, convenient and efficient ways to participate internet finance uses. Its unique internet technologies including mobile payments, cloud computing, social networks, and search engines enable direct transactions between funds supply and demand without going through banks, brokerages, or exchanges. Intermediaries not only weakened the role of traditional financial intermediaries, accelerated financial disintermediation, but more importantly brought convenience and efficiency to participants. The various modes of internet finance also coincide with the basic spirit of ―openness, equality, collaboration, and sharing" of the internet, which makes finance a kind of open participation with high autonomy and selectivity, free flow of funds, and low transaction costs. With the popularization of the Internet, the application of internet finance will reach a new height.

The low cost of information symmetry

Before the development of Internet finance, the individual's credit value has not been well reflected and discovered. Now with the development of e-commerce, internet companies have made full analysis and circulation of personal information and credit data through massive amounts, transactions, and amounts. The focus now on credit data has also been broadened by transactions to the dimensions, breadth, and width of data. This greatly reduces the asymmetry of information, making the credit judgment and assessment more accurate and rapid. Through electronic database storage and search technology, credit information is used at the fingertips to form a low-cost financial model. Especially for small and micro enterprises, internet finance supported by big data has undoubtedly brought great convenience to their financing. For example, Ali Small Credit provides pure credit loans for small and micro enterprises without guarantees or mortgages. The credit threshold is greatly reduced for small and micro enterprises that lack creditworthiness and lack of credit records, making it difficult to assess loan risks. The improvement of the information structure enables internet finance to give the risk pricing or dynamic default probability of any capital demander at a very low cost, thereby clearly identifying the company's qualifications and minimizing the cost of risk management.

Broad coverage of Internet finance

Under the broad internet finance model, customers can break through the constraints of time and area and find the necessary financial resources on the internet. Financial services are more direct and customer base is more extensive. In addition, internet finance customers mainly focus on small and micro enterprises, covering some of the blind areas of financial services in the traditional financial industry, which is conducive to improving the efficiency of resource allocation and promoting the development of the real economy. With its advantages in information processing, internet financing can design processes and products for the ―short, small, frequent, and urgent" features of financing needs of small and micro enterprises, better provide financing support for them, and seize commercial banks in small and micro enterprises. Market share in the credit sector. At the same time, the rapid development of third-party payment platforms has brought unprecedented challenges to the middle business of commercial banks. Entrepreneurs and ordinary people can conduct various financial transactions through the internet. Risky pricing, deadline matching and other complex transactions will be greatly simplified and easy to operate. Market participants will become more popular. The huge benefits brought about by the internet financial market exchange will become even more popular.

Traditional banking

Here are four advantages of traditional banking, it can be as follows:

- Functions of macroeconomic control
- Strong asset strength
- Rich client resources
- Perfect risk control system

Functions of macroeconomic control

As long as the functions of the central bank to issue currency and control inflation persist, the banking system will not change its function as the main channel for regulating the market economy and transmitting macroeconomic policies. As the hub of the social credit system, the banking system plays a key role in ensuring the security of social funds. It is difficult for internet finance to completely abandon the banking credit system and establish a credit system. The importance of banks in currency creation and payment settlement systems is recognized and regulated by the current legal system. While providing wealth management services for the entire society, commercial banks also provide important media support for social transactions. They are important foundation for maintaining economic activities, and are indispensable to human blood circulation. It is difficult for other institutions or non-bank financial institutions to perform such functions.

Strong asset strength

Despite the rapid development momentum of internet corporate financial services, its asset size, transaction size and other indicators cannot compete with commercial banks. The bank also operates deposit and loan business, which enables the bank to have the function of inter-period financing. Moreover, commercial banks have huge funds and the bank deposit and loan business has a huge impact. Moreover, under the circumstances that bank liabilities constitute the main body of credit currency, it also enabled the banking system to gain credit expansion beyond the origin of deposits, which further strengthened the position of commercial banks in the financial system.

Rich client resources

Commercial banks have accumulated rich customer resources after long-term development and operation. Commercial banks, through strategies such as relationship pricing, intend to establish long-term and comprehensive relationships with large corporate customers. In recent years, commercial banks have stepped up promotion of e-banking business, and the number of e-banking customers has grown significantly. According to the summary statistics, the total number of personal internet banking users of the nine banks was close to 300 million, and the total number of internet banking users of the seven banking companies reached 5.32 million, which was a significant increase from the same period in 2011.

Perfect risk control system

The financial industry is an industry that operates risks. Risk management is the main line that runs through the development of commercial banks. Faced with complex and volatile risk environments such as credit risk, liquidity risk, interest rate risk, market risk, exchange rate risk, operational risk, and legal risk which are driven by increasingly stringent external regulatory constraints and increasingly fierce peer competition, commercial banks attach great importance to risk management issues, constantly optimize risk management processes in practice, establish and improve risk control indicator systems, improve various risk control rules and regulations, and strictly control various types of risks.

3.4 The disadvantages of internet banking and traditional banking

In the previous section, it introduces the advantages of traditional banking and internet banking. The following are the disadvantages of traditional banking and internet banking.

Internet banking

Here are three disadvantages of internet banking, it can be as follows:

- Weak risk control ability
- Incompleteness of internet technology
- Weak supervision and lack of law

Weak risk control ability

Internet finance has not yet been connected to the People's Bank's credit information system. There is no credit information sharing mechanism, and it does not have the risk control, compliance, and recovery mechanisms of similar banks. It is prone to various types of risk problems, and there have been public loan networks and network wins. P2P online lending platform such as the world announced bankruptcy or stop services. The transaction data cannot grasp the true flow of funds, and the credit risk judgment may be mistaken. The transaction data can support the gold financing letter model and reduce the default rate to a certain probability which is unpredictable. At the same time, sensitive data is placed in the cloud, causing insecurity of funds.

Incompleteness of internet technology

The key links such as credit review and risk management all rely on the internet platform, which increases the technical risks and vulnerability of the platform and is susceptible to Trojans, phishing websites and third-party fraud; there is no mortgage guarantee and no credit binding. Once the risk occurs, it can easily cause major losses. The issue of China's internet security is outstanding. The issue of cyber finance crimes cannot be ignored. In the event of hacking attacks, the normal operation of internet finance will be affected, threatening the safety of consumers' funds and the security of personal information.

Weak supervision and lack of law

Internet finance is still in its infancy in China. There is no regulatory and legal restriction, and there is a lack of access thresholds and industry regulations. The entire industry faces many policy and legal risks. Regulation is difficult to cover in full. It is difficult to protect consumer rights. Besides violations of laws and regulations occur from time to time. At this stage, China’s credit system is still not perfect. And the related laws of internet finance have yet to be matched. The cost of defaulting on internet finance is low, and it is easy to induce risky problems such as malicious fraudulent loans and repayments. In particular, P2P lending platforms have become a hotbed for criminals to engage in criminal activities such as illegal fund-raising and fraud due to low barriers to entry and lack of supervision.

Traditional banking

Here are three disadvantages of traditional banking, it can be as follows:

- The weakness of financial intermediaries
- The traditional business service model is facing challenges
- Sources of income have been hit

The weakness of financial intermediaries

The main function of traditional banking is the integration of media funds. At present, however, this intermediary function has been challenged by internet companies such as third-party payment and online loan platforms, and has gradually weakened. Internet technology reduces the cost of information acquisition and transaction costs, and diverts the demand for commercial bank financing intermediary services. The development of internet technology has changed the way information is transmitted and disseminated, and has provided a wealth of information base for financial transactions. The development of social network and P2P trading platform has solved the problem of information asymmetry and high cost in the financing process to a certain extent. That is, the social network platform has solved the problem of information asymmetry. And the P2P trading platform has greatly reduced transaction costs. Third-party payment and mobile payment have provided users with a good payment experience through a flexible business model with internet characteristics, and have produced a clear alternative to the traditional payment of commercial banks.

The traditional business service model is facing challenges

The problem of financing difficulties for SMEs has not been solved well. The main difficulty is that banks' traditional business models cannot cope with the risk diversification and diversification challenges of this business. The commercialization of traditional banks needs to be further accelerated. Internet companies have also taken the lead in providing customers with flexible products. Compared with the bank's micro-enterprise loan service model, the network micro-lending model shows strong competitiveness. Commercial banking must conform to the development trend of the internet. And the understanding of the internet cannot stop at the replacement of network points. It must be realized that the internet is not just a technology but also a trend. Internet finance is not about the internetization of financial products, but about innovation in combination with the internet and finance.

Sources of income have been hit

Although online lending has not been around for a long time, it has grown rapidly because it can raise funds for individuals or businesses that are not covered by formal financial institutions and will form banks with banks in the areas of small and micro enterprises and personal lending in the future. Competition will affect the spread income of traditional banking. The increasing content of third-party payment services will affect the income of traditional banks' intermediary businesses. After obtaining licenses from internet third-party payment companies, such as Alipay and Tenpay, they can participate in internet and mobile phone payments, bank card collection, and prepaid card issuance. With the acceptance, currency exchange and many other business payment links will occur. With the diversification of types of licensed business and the diversified needs of service providers and individual users in the future, more and more companies will extend their reach into new areas. Up till now, four institutions, including UESTC, Epropay and Alipay have passed the approval of the Securities Regulatory Commission and obtained third-party payment licenses from funds, becoming direct sales channels for the fund companies. The development of third-party fund payment has formed an impact on bank agency sales, which has affected the bank's fund agency commission fee income.

3.5 Comparative analysis based on profitability ratio and deposit rate

The profitability ratio can indicate the ability of a company to earn profits under normal operating conditions. And through comparing the banks' deposit rate, it can explain the increase or decrease in the number of deposits made by a bank after joining the internet banking business. The following are introduction content of profitability ratios and deposit rate.

3.5.1 The concept of profitability ratios

Profitability ratio belongs to financial ratio，there are main four ratios in financial ratio, here are as follows:

- Liquidity ratios
- Solvency ratios
- Asset management ratios
- Profitability ratios

Liquidity ratios

It measure company’s ability to generate profit from invested capital. In other words, Liquidity ratios measure a company's ability to pay debt obligations and its margin of safety through the calculation of metrics including the current ratio, quick ratio and operating cash flow ratio. Current liabilities are analyzed in relation to liquid assets to evaluate the coverage of short-term debts in an emergency. Bankruptcy analysts and mortgage originators use liquidity ratios to evaluate going concern issues, as liquidity measurement ratios indicate cash flow positioning.

Solvency ratios

Solvency ratio is a key metric used to measure an enterprise’s ability to meet its debt and other obligations. The solvency ratio indicates whether a company’s cash flow is sufficient to meet its short-term and long-term liabilities. The lower a company's solvency ratio, the greater the probability it will default on its debt obligations.

Asset management ratios

It measures the efficiency of assets usage. Asset Management Ratios attempt to measure the firm's success in managing its assets to generate sales. For example, these ratios can provide insight into the success of the firm's credit policy and inventory management. These ratios are also known as Activity or Turnover Ratios.

Profitability ratios

It analyzes the company’s ability to generate profit from invested capital. Profitability ratios are a class of financial metrics that are used to assess a business's ability to generate earnings compared to its expenses and other relevant costs incurred during a specific period of time. For most of these ratios, having a higher value relative to a competitor's ratio or relative to the same ratio from a previous period indicates that the company is doing well.

Profitability ratio is the basis for the survival and development of an enterprise and is an indicator that is of great concern to all parties. Whether it is an investor, a creditor or a corporate manager, there is an increasing emphasis on and concern for the profitability of the company. In general, the company's profitability refers to normal business conditions. Unusual business conditions will also bring profits or losses to the company, but this is only a special case of individual circumstances, which cannot explain the company's ability. Therefore, securities analysts in the analysis of corporate profitability should rule out the following factors: securities trading Non-normal items, special items such as business items that have been or will be stopped, major accidents or legal changes, accounting standards, and the cumulative effect of changes in the financial system.

There are many indicators that reflect the profitability of an enterprise. The main ones used are the net sales rate, sales gross margin, net asset rate, and net rate of return.

- Sales Net Profit Rate

The net profit of sales refers to the percentage of net profit and sales revenue, the formula is as follows:

$$\text{Net sale margin} = \frac{\text{Net profit}}{\text{Sales revenue}} * 100\% \qquad (3.1)$$

This indicator reflects percentage of the amount of net profit to sales revenue. It represents the level of revenue from sales revenue. Higher net profit margins are more beneficial for company.

- Sales gross profit

Gross margin of sales is the percentage of gross sales to sales revenue, where gross margin refers to the difference between sales revenue and cost of sales. The formula is as follows:

$$\text{Gross profit margin} = \frac{\text{Sales revenue} - \text{Cost of sales}}{\text{Sales revenue}} * 100\% \qquad (3.2)$$

The gross profit margin is the initial basis for the company's net profit margin. If there is not enough gross margin, it will not be profitable. Higher net profit margins are more beneficial for company

- Net asset rate

Net asset rate is the percentage of corporate net profit to average total assets. The formula for calculating net assets is:

$$\text{Net asset rate} = \frac{\text{Net profit}}{\text{Average total assets}} * 100\% \qquad (3.3)$$

The higher the index, the higher the efficiency of the use of assets, indicating that companies have achieved good results in terms of increasing revenues and saving funds.

- Return on net assets

Return on net assets is the percentage of net profit and average net assets. It is also called net return or equity return. Its calculation formula is:

$$\text{Return on net assets} = \frac{\text{Net profit}}{\text{Average net asset}} * 100\% \qquad (3.4)$$

The return on net assets reflects the return on investment of the company's owner's equity and is highly comprehensive. The higher the value of the indicator, the higher the return on investment.

- Operating profit margin

It is the measurement how well the company manages its operations and how well the revenues are being generated and operating costs, it measure operating profit per one unit of revenues. Its calculation formula is:

$$\text{OPM} = \frac{\text{Operating profit}}{\text{Revenues}} * 100\% \qquad (3.5)$$

The higher the operating profit rate, the more operating profit provided by the company's product sales and the stronger the profitability of the company; conversely, the lower the ratio, the weaker the company's profitability.

- Net profit margin

It measures net profit per one unit of revenues, its calculation formula is:

$$\mathrm{NPM} = \frac{\mathrm{EAT}}{\mathrm{Revenues}} * 100\% \tag{3.6}$$

Here EAT means earning after tax, the higher the net profit ratio, the stronger the company's profitability, but it is greatly affected by the characteristics of the industry. In the analysis we should combine with the specific circumstances of different industries for analysis.

- Return on assets

It measures net profit as a percentage for every unit of company's assets, and its calculation formula is:

$$\mathrm{ROA} = \frac{\text{Operating profit}}{\mathrm{Assets}} * 100\% \tag{3.7}$$

The higher the return on assets, the better the use of corporate assets, indicating that companies have achieved good results in increasing revenue and saving funds.

- Return on equity

It measures a firm's efficiency at generating profits from every units of shareholders' equity, its calculation formula is:

$$\mathrm{ROE} = \frac{\mathrm{EAT}}{\mathrm{Equity}} * 100\% \tag{3.8}$$

Here EAT means earning after tax. In general, the higher the ROE, the better the company's condition is. Above 15% is ideal, while greater than 20% is excellent.

We will use the four basic ratios of the profit ratio in the case study in Chapter 4.

3.5.2 The concept of deposit rate

Bank deposits consist of money placed into banking institutions for safekeeping. These deposits are made to deposit accounts such as savings accounts, checking accounts and money market accounts. The account holder has the right to withdraw deposited funds, as set forth in the terms and conditions governing the account agreement. The deposit itself is a liability owed by the bank to the depositor. Bank deposits refer to this deposit rather to the actual funds that have been deposited. When someone opens a bank account and makes a cash deposit, he surrenders legal title to the cash, and it becomes an asset of the bank. In turn, the account is a liability to the bank.

There are several different types of deposit accounts including current accounts, savings accounts, call deposit accounts, money market accounts and certificates of deposit, here are as follows:

- Current Deposit Account
- Savings Accounts
- Time Deposit Accounts
- Call Deposit Accounts

Current Deposit Account

Consumers deposit money which they can with draw the desired on demand Slips. In some cases, banks charge monthly fees for current accounts, but they may waive the fee if the account holder meets other requirements such as setting up direct deposit or making a certain number of monthly transfers to a savings account.

Savings Accounts

Savings accounts offer the account holder interest on his deposits. However, in some cases, account holders may incur a monthly fee if they do not maintain a set balance or a certain number of deposits. Like current accounts, their funds are relatively easy for account holders to access. In contrast, money market accounts offer slightly higher interest rates than savings accounts, but account holders face constraints on the number of checks or transfers they can make from these accounts.

Time Deposit Accounts

Similar to certificates deposit, time deposit accounts tend to offer a higher rate of return than traditional savings accounts, but the money must stay in the account For a set period of time. In other countries, time deposit accounts feature alternative names such as term deposits, fixed-term accounts and savings bonds.

Call Deposit Accounts

Financial accounts refer to these accounts as interest-bearing checking accounts, Checking Plus or Advantage Accounts. These accounts combine the features of checking and savings accounts, but allow their access to their money but also earn interest on their deposits.

Besides，the growth rate of deposits absorbed refers to the percentage in deposits during the period increases more than during the previous period. Following is formula of deposit growth rate.

$$\frac{\text{Deposits of current period} - \text{deposits of the previous period}}{\text{Deposits of the previous period}} * 100\% \qquad (3.9)$$

This indicator mainly reflects the bank's ability to absorb deposits. The stronger the ability, the lower the corresponding cost of funds probably is.

4 Case study

Choosing HuaXia Bank as an example, it uses the profitability ratio and deposits ratio to calculate and compare two phases of HuaXia Bank: the traditional period and the period after joining the internet banking business. The following is the introduction of HuaXia Bank.

HuaXia Bank, which was established in Beijing, China, in October 1992, is a joint-stock bank. In March 1995, the joint-stock reform was implemented; in September 2003, the company publicly issued shares for the first time and listed (stock 600015), becoming the fifth listed bank in China. As of the end of September 2013, HuaXia Bank has established 34 first-tier branches, 30 second-tier branches and 12 sub-branch branches in 76 central cities, with 520 business outlets and agency relations with more than 1,000 overseas banks. The agency network covers 320 cities in 110 countries and regions on five continents. It has established a settlement network covering major trading areas in the world; its total assets reach 155.819 billion yuan and its overall profitability has rapidly risen. Asset quality has improved significantly, and its business structure has been significantly optimized. The operating efficiency has been raised faster and has maintained a good momentum of development. In the judging of the Top 1000 Banks of the World Bankers magazine published in July 2013, HuaXia Bank ranked 94th in terms of assets, 152th among the top 500 Chinese companies in 2013 and 52nd among 500th in Chinese service companies. In August 2016, HuaXia Bank ranked 134th among the ―2016 Top 500 Chinese Enterprises”.

In December 1999, HuaXia Bank internet Banking won the "2009 China Internet Banking Best Market Promotion Award" at the ―2009 China Internet Banking Annual Meeting” hosted by China Banking Finance Certification Center of the People's Bank of China.

We will use HuaXia Bank of China as an example to illustrate the impact of internet finance on the operations of bank companies by calculating profitability ratios and other data. We chose Huaxia Bank's traditional period from 2005 to 2009 as an example to illustrate the development of HuaXia Bank. And after joining Internet Banking in 2009, HuaXia Bank in the next seven years from 2010 to 2016 developed again.

4.1 The traditional period of HuaXia Bank: analysis based on profitability ratio

Following Table 1 shows the assets, equity, revenues, earnings after tax and earnings before interest and tax of HuaXia Bank in 2005-2009.

Table 1 Input data for profitability ratios calculation (2005-2009)

Unit：thousand yuan

	2005	2006	2007	2008	2009
Assets	356488060	445287175	592558213	731637186	845456432
Equity	10812649	11876545	13277113	27421357	30234185
Revenues	8004349	10075727	14216458	17611366	17129635
EAT	1401079	1481704	2101189	3070838	3760227
EBIT	2177611	2435890	3820794	4033889	4811265

Source: [1][2][3][4] (http://www.hxb.com.cn/)

Calculate relevant ratios by using the formula of 3.5,3.6,3.7,3.8.Following Table 2 and Figure 4 shows profitability ratios of HuaXia Bank in 2005-2009.

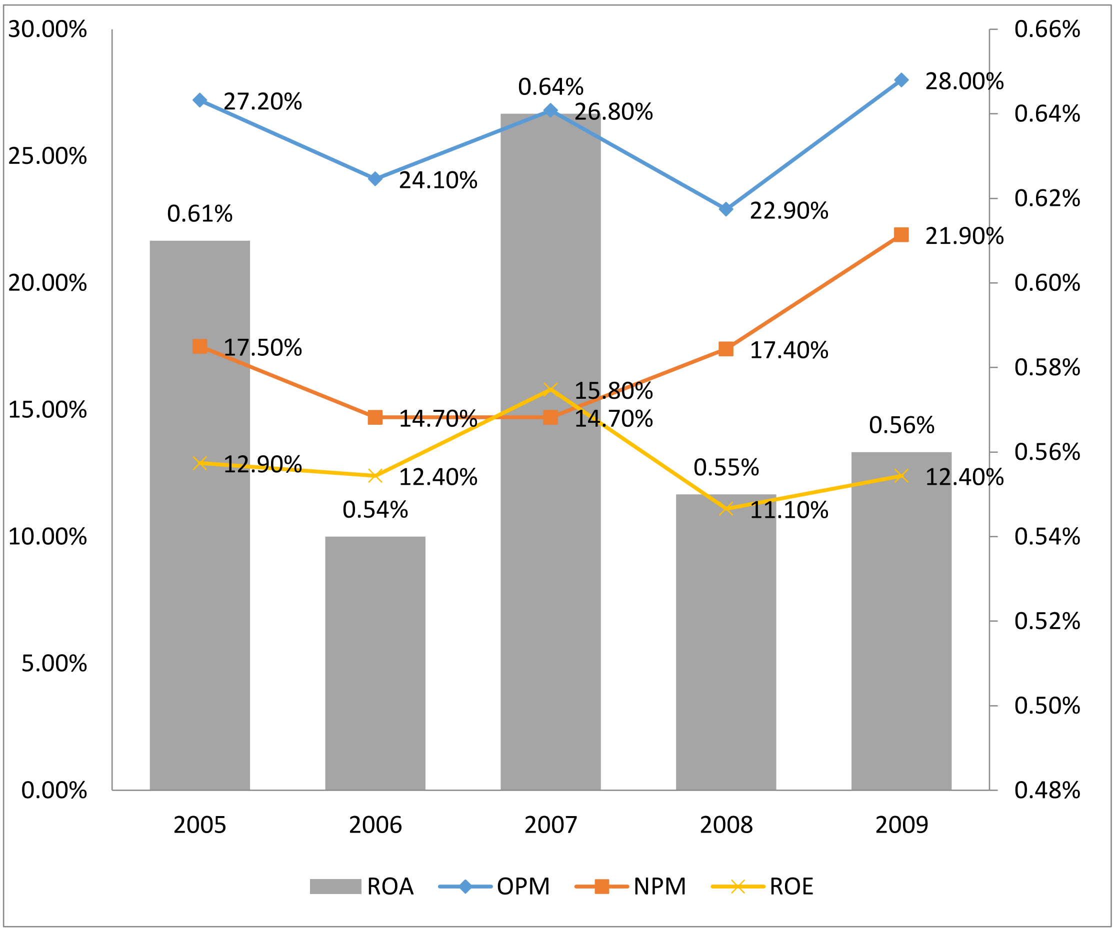
Table 2 Profitability ratios of HuaXia Bank (2005-2009)

Unit：%

	2005	2006	2007	2008	2009
OPM	27.2%	24.1%	26.8%	22.9%	28%
NPM	17.5%	14.7%	14.7%	17.4%	21.9%
ROA	0.61%	0.54%	0.64%	0.55%	0.56%
ROE	12.9%	12.4%	15.8%	11.1%	12.4%

Figure 4 Profitability ratios of HuaXia Bank (2005-2009)

Unit：%



From the HuaXia Bank's financial report, we can calculate the company's profitability ratio and look at the data fluctuations from 2005 to 2009. According to the line chart, we can see that from 2005 to 2006, ROE, ROA, NPM and OPM four ratios have experienced a slight decline. In 2007, they resumed their upward trend:

OPM rose from 24.10% to 26.8%, ROE rose from 12.4% to 15.8%, and ROA increased from 0.54% to 0.64%. NPM remained unchanged for 14.7. After the transition from 2007 to 2008, most of the companies were affected due to the financial crisis that broke out in 2008, so the three ratios ROA, OPM, and ROE declined. Here, NPM increased slightly from 14.7% to17.4%, because the company's net profit base is better. In addition, there was a very important change in 2009. In 2009, HuaXia Bank joined the online banking business. As a result, it can be seen that ROA, OPM, NPM, and ROE ratios all increased significantly: ROA increased from 0.55% to 0.56%, OPM rose from 22.9% to 28.00%, NPM rose from 17.4% to 21.9%, and ROE increased from 11.1% to 12.40%.

4.2 HuaXia Bank after joining internet banking: analysis based on profitability ratio

In 2009, HuaXia Bank began to join the internet banking business. Following Table 3 shows the assets, equity, revenues, earnings after tax and earnings before interest and tax of HuaXia Bank in 2010-2016.

Table 3 Input data for profitability ratios calculation (2010-2016)

Unit: thousand yuan

	Assets	Equity	Revenues	EAT	EBIT
2010	1040230442	35495880	24478895	5989582	8027843
2011	1244180235	64020681	33535389	9220922	12527399
2012	1488909617	74815356	39805552	12795659	17251481
2013	1672447000	86019000	45219000	15511000	20660000
2014	1851628000	102099000	54885000	18023000	23891000
2015	2020604000	118388000	58844000	18952000	24934000
2016	2356235000	152973000	64025000	19756000	26119000

Source: [5][6][7][8][9] (http://www.hxb.com.cn/)

Calculate relevant ratios by using the formula of 3.5,3.6,3.7,3.8. Following Table 4 and Figure 5 shows profitability ratios of HuaXia Bank in 2010-2016.

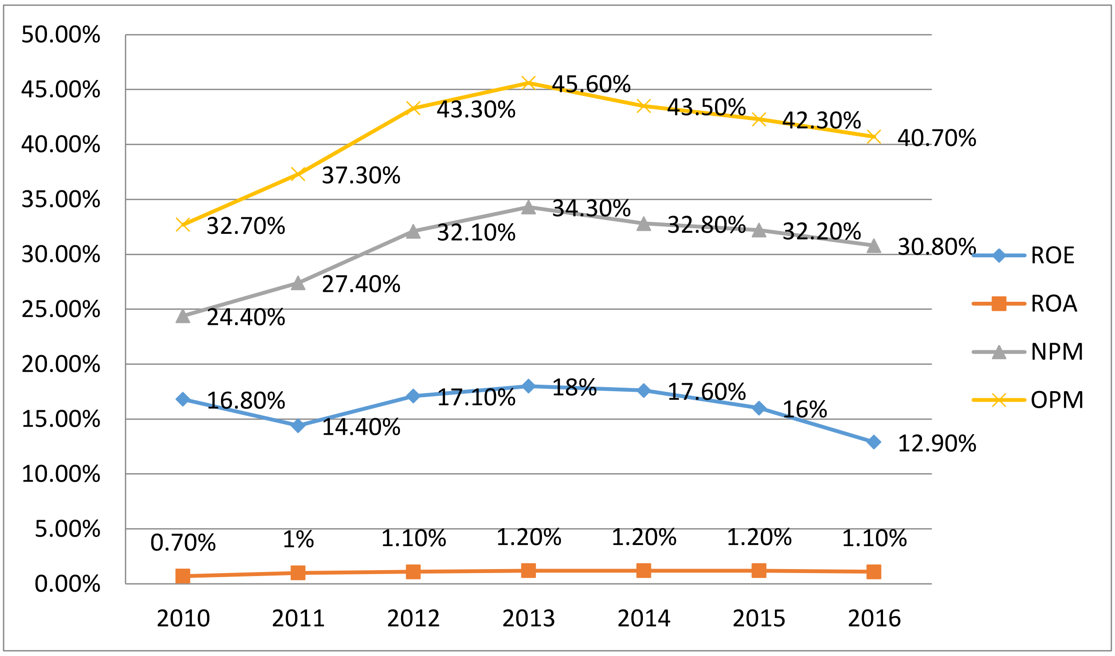
Table 4 Profitability ratios of HuaXia Bank (2010-2016)

Unit：%

	2010	2011	2012	2013	2014	2015	2016
OPM	32.7%	37.3%	43.3%	45.6%	43.5%	42.3%	40.7%
NPM	24.4%	27.4%	32.1%	34.3%	32.8%	32.2%	30.8%
ROA	0.7%	1.0%	1.1%	1.2%	1.2%	1.2%	1.1%
ROE	16.8%	14.4%	17.1%	18.0%	17.6%	16.0%	12.9%

Figure 5 Profitability ratios of HuaXia Bank (2010-2016)

Units：%

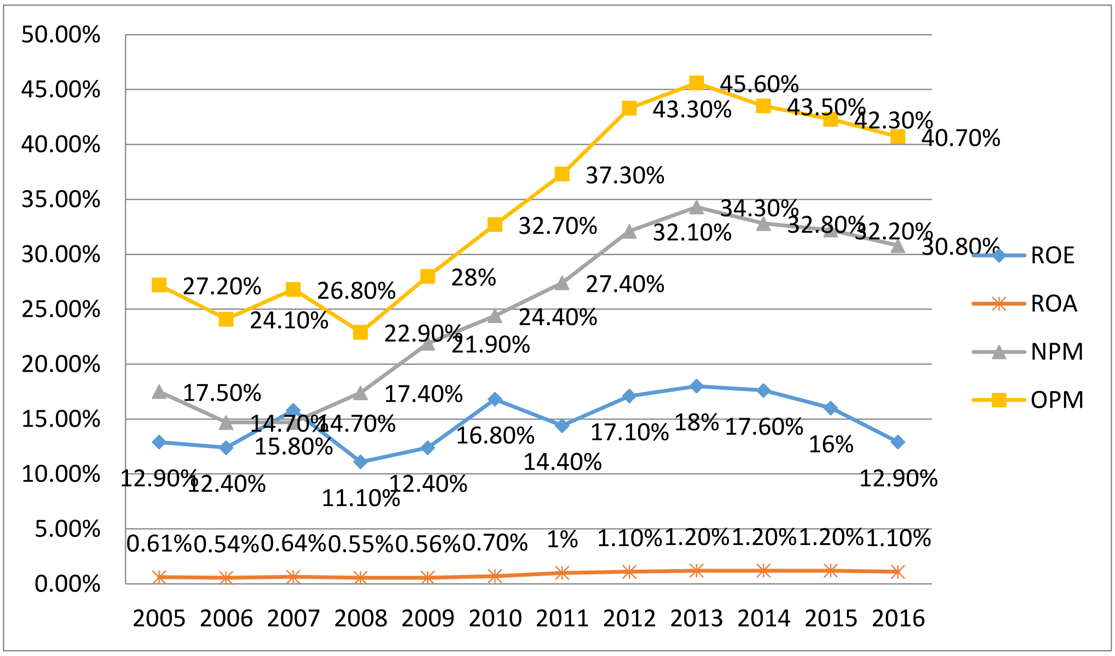


From HuaXia Bank's financial report, we can calculate the company's profitability ratio and view the data fluctuations from 2010 to 2016. From the line chart, we can see that during the seven years, the trajectories of OPM and NPM are almost the same: OPM fluctuates from 30% to 45%, and in 2010-2013, from 32.70% to 45.6%. In 2013-2016, OPM declined slightly again; NPM fluctuates from 20% to 35%, from 24.40% to 34.30% in 2010-2013, and in 2013-2016 NPM also emerged decline slightly. At the same time, in the seven years, the ROA has not seen a significant increase and it has remained around 15 in total. In addition, ROE fell from 16.8% to 14.4% in 2011, and then rose to 18%. In 2013-2016, ROE also showed a slight decline. Overall, all four ratios declined in 2013 because the P2P network lending has seen a wave of closures and lack of supervision in 2013, leading to small fluctuations in the online banking business of most banks.

Following Figure 6 shows summary profitability ratios of HuaXia Bank in 2005-2016.

Figure 6 Summary profitability ratios of HuaXia Bank (2005-2016)

Unit: %



According to Figure 6, we can see that ROE, ROA, NPM and OPM fluctuate greatly from 2005 to 2009. Due to the aforementioned: financial crisis, P2P network loan closure, and subjective business issues, the associated ratios have an uncertain rise and fall. However, in 2009, the simultaneous growth of the four ratios was clearly significant: ROE increased from 12.4% to 16.8%, ROA increased from 0.55% to 0.56%, NPM increased from 22.9% to 24.4%, and OPM increased from 28% to 32.7%. Obviously, we can conclude that after the development of Hua Xia Bank's internet banking, internet banking development has had a positive impact on the profitability of Hua Xia Bank.

4.3 HuaXia Bank in 2005-2016: analysis based on deposits rate

Following Table 5 shows the deposits of HuaXia Bank in 2005-2016.

Table 5 The deposits of HuaXia Bank (2005-2016)

Unit：thousand yuan

	2005	2006	2007	2008	2009	2010
Deposits received	312129404	371295024	438782259	485349577	581678388	767622249

	2011	2012	2013	2014	2015	2016
Deposits received	896023654	1036000000	1177592000	1303216000	1351663000	1368300000

Source: http://www.hxb.com.cn/

Calculate deposits growth rate by using the formula 3.9.The following are the calculated results. Table 6 shows the deposit growth rate in 2005-2009.

Table 6 The deposits growth rate of HuaXia Bank (2005-2016)

Unit：%

	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010
Deposits growth rate	18.96%	18.17%	10.61%	19.80%	31.96%

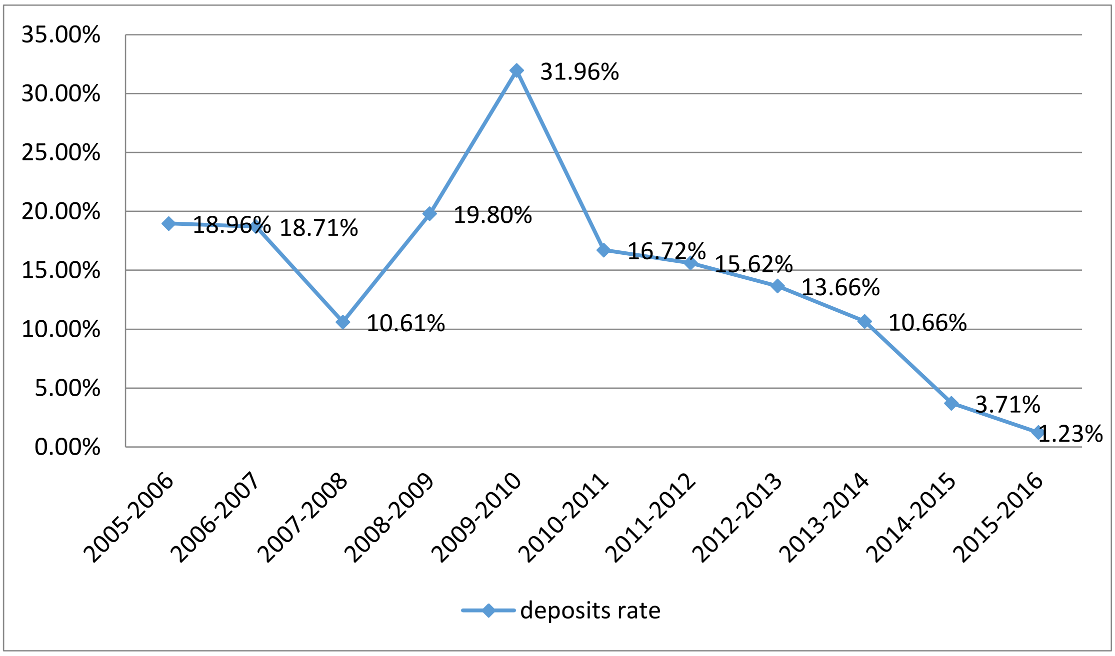
	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
Deposits growth rate	16.72%	15.62%	13.66%	10.66%	3.71%	1.23%

Source：http://www.hxb.com.cn/

Following Figure 7 shows the deposits growth rate of HuaXia Bank in 2005-2016.

Figure 7 The deposits growth rate of HuaXia Bank (2005-2016)

Unit: %



According to the deposit data, we can calculate the deposit growth rate. From the chart we can see that in 2007, this period is traditional period for HuaXia bank, there was a slight decline, but during the transition period of 2008-2009, the growth rate of deposits has increased significantly by 2010, from 10.61% to 31.96%. This means that after HuaXia Bank began to join the internet banking business in 2009, the bank's deposit rate has increased significantly. This also shows from the side: As the internet banking business develops, customers can use internet banking to operate some payment behaviors. This requires the bank's savings card to retain a certain amount of funds, thus promoting the bank's deposit rate increase.

Besides, there is a decline: 31.96% in 2010 fell to 1.23% in 2016, even if the deposit amount was still rising. However, the deposit growth rate did have a declining compared with that before. This shows that the amount of bank deposits has gradually become saturated. And it can find the answer from the shortcomings of online banking: internet banking needs innovation, and it will be explained in the summary.

4.4 Summary

Through comparison and analysis of HuaXia Bank's two periods, one is the traditional period from 2005 to 2009, and the other is the period after joining internet banking in 2009.

Firstly, by calculating profitability ratios in chapter four: ROE, ROA, OPM, and NPM, it can be concluded that excluding some objective factors such as the financial crisis, the closure of P2P online lending and the subjective development of the company will lead to related issues. There is temporary decline in the ratios. While after HuaXia Bank joined the internet banking business in 2009, its profitability ratio increased. The profitability ratio refers to the ability of a company to earn profits through normal operations. It is the basis for the survival and development of an enterprise, and an indicator that all parties are very concerned about. Not only investors and creditors but corporate managers, there is an increasing emphasis on and concern for the profitability of the company. Therefore, the increase in the profitability ratio fully demonstrates that HuaXia Bank’s ability to earn profits has gradually increased. On the other hand, it also means that the development of internet banking has a beneficial effect on HuaXia Bank.

On the other hand, according to the line graph of deposit growth rate, we can see that after joining the internet banking business in 2009, HuaXia Bank's deposit growth rate increased. This shows that the development of Internet banking has brought a positive impact on HuaXia Bank. However, after 2010-2011, HuaXia Bank's deposit growth rate has a marked decline, which also reflects the shortcomings of internet banking services: Such as these content which mentioned in preamble: weak risk control ability mentioned above, incompleteness of internet technology, Weak Supervision and lack of law. All these will bring negative influences on development of the bank. What kind of measures should be taken to address the development of internet banking, it will be mentioned in the next chapter conclusion.

5 Conclusion

Nowadays, information has transformed the traditional tangible market into a convenient internet. Under the background of the rapid development of internet finance, a series of services generated by the use of network resources are also increasing. Among them, the birth of internet banking has played an extremely important role in the economy society.

For modern commercial banks, how to further increase the high-tech content of financial products and extend the branch of financial services is the key to improving the core competitiveness of banks. The emergence and development of internet banking have challenged the traditional banking industry and brought new opportunities to the development of the banking industry. It can be said that networking is one of the strategic choices of traditional banks, and domestic and foreign banks have also been gradually networking. However, there are also some difficulties, such as security issues, the degree of acceptance of the internet lifestyle, technology, and talent input costs. How to choose the right development strategy is the key to the transformation of traditional banks. Besides, how to innovate internet banking business in the development of internet finance to a later stage, making it more adaptable to the development of participants in the economy society

The development strategy of the traditional banking network transition, in the short-term strategy: focus on internet banking marketing, do a good job in propaganda and promotion; keep track of the development of network applications and security technology; accelerate the provision of basic internet banking and investment services, accelerate the possibility and operation mode of online credit business. In the long-term strategy: make a comprehensive analysis of the cost-effectiveness and comparative advantages of various types of e-banking services, formulate the principles for considering the focus of resource allocation, prioritize the launch of related service and study some new online-derived competitors; make appropriate adjustments to the bank's internal management culture and organizational structure;

promote the integration of banks and hi-tech companies; continuously improve the technical level of banking networks; Enhance the training of employees' application knowledge on network services and attract relevant talents.

For the future development of internet banking, I think we can follow the Czech Republic's Air Bank's business model: using the internet to think about banking. The Czech Air Bank is an internet bank founded in 2011 and profitable in less than two years. There have main features about Air Bank: customers can complete all services including opening an account through the Internet; minimalism, only three types of services are provided: current deposits, term deposits and loans, meets 90% Czechs people's needs, more products make customers confused; simple business language, the details of the fee must be stored on a single A4 sheet of paper; a small number of physical outlets are still established, although all services can be conducted internet, banks need to face to face with customers, a place of communication to meet the needs of customers; cafe bank concept model, open management, public spaces and counters do not have glass walls. As long as customers are willing, they just come to rest and have coffee. In all, Air Bank can stand out among many banks in Czech Republic, relying on a new model of excellence. Therefore, this is a novel internet banking business model for the development of internet banking in the future.

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List of Abbreviation

P2P---peer to peer

USA---United State

UK---United Kingdom

SNS---Social Networking Services

SME---Small and medium

ATM---Automatic Teller Machine

APP---Application

SMS---Short Message Services

Declaration of Utilisation of Results from the Bachelor Thesis

Herewith I declare that

- I am informed that Act No. 121/2000 Coll. – the Copyright Act, in particular, Section 35 – Utilisation of the Work as a Part of Civil and Religious Ceremonies, as a Part of School Performances and the Utilisation of a School Work – and Section 60 – School Work, fully applies to my diploma (bachelor) thesis;
- I take account of the VSB – Technical University of Ostrava (hereinafter as VSB-TUO) having the right to utilize the diploma (bachelor) thesis (under Section 35(3)) unprofitably and for own use;
- I agree that the diploma (bachelor) thesis shall be archived in the electronic form in VSB-TUO's Central Library and one copy shall be kept by the supervisor of the diploma (bachelor) thesis. I agree that the bibliographic information about the diploma (bachelor) thesis shall be published in VSB-TUO's information system;
- It was agreed that, in case of VSB-TUO's interest, I shall enter into a license agreement with VSB-TUO, granting the authorization to utilize the work in the scope of Section 12(4) of the Copyright Act;
- It was agreed that I may utilize my work, the diploma (bachelor) thesis or provide a license to utilize it only with the consent of VSB-TUO, which is entitled, in such a case, to claim an adequate contribution from me to cover the cost expended by VSB-TUO for producing the work (up to its real amount).

Ostrava dated 11.05.2018

刘洋 Yang Liu.

Student's name and surname

List of Annexes

Annexes 1: Balance Sheet of HuaXia Bank in 2004, 2005

Prepared by: Hua Xia Bank Co., Ltd. Unit: RMB yuan

Items	Notes	December 31, 2005	December 31, 2004
Current Assets			
Cash on hand and cash at bank	V.1	1,049,244,797.96	972,863,036.46
Due from the Central Bank	V.2	35,809,927,996.86	59,115,531,007.85
Due from banks	V.3	7,254,872,077.40	4,522,699,248.52
Placemnt with banks	V.4	109,709,140.00	1,239,128,000.00
Placement with other financial institutions	V.5		430,000,000.00
Short-term loans	V.6	123,902,482,663.10	107,015,852,217.20
Import & export advances and negotiation	V.7	1,337,866,408.65	1,212,047,290.39
Interest receivable	V.8	792,553,968.66	585,502,938.28
Other receivables	V.9	582,268,005.27	435,381,839.67
Less: Provision for doubtful debts	V.10	222,183,366.48	248,988,436.82
Net amount of receivables		1,152,638,607.45	771,896,341.13
Discounted bills	V.11	40,488,435,875.75	18,206,992,436.66
Short-term investments	V.12	6,746,730,469.04	2,332,122,194.73
Amounts receivables under reverse repurchase agreements	V.13	12,364,883,342.47	11,056,523,176.80
Long-term bond investments manturing in one year	V.14	5,772,285,901.12	5,490,262,699.74
Total current assets		**235,989,077,279.80**	**212,365,917,649.48**
Long-term assets:			
Medium to long-term loan	V.15	60,960,803,905.24	48,645,423,391.29
Overdue loans	V.16	6,997,934,966.26	6,031,887,076.79
Less: Provision for credit losses	V.17	4,932,315,726.33	4,408,978,163.73
Long-term bond investments	V.18	51,768,705,602.88	36,456,353,171.15
Long-term equity investment	V.19	50,000,000.00	50,000,000.00
Less: Provision for long-term investments			
Net amount of long-term investments		51,818,705,602.88	36,506,353,171.15
Fixed assets, at cost	V.20	4,954,465,290.57	4,644,469,733.73
Less: Acumulated depreciation	V.20	1,267,388,066.66	1,055,970,066.59
Fixed assets, net book value		3,687,077,223.91	3,588,499,667.14
Construction in progress	V.21	36,864,999.50	67,412,391.74
Fixed assets pending for disposal			18,180,516.97
Total long-term assets		**118,569,070,971.46**	**90,448,778,051.35**
Intangible assets and other assets			
Long-term deferred expenses	V.22	505,061,419.85	522,649,293.25
Repossessed assets	V.23	368,935,948.02	253,726,950.02
Total intangible assets and other assets		**873,997,367.87**	**776,376,243.27**
Deferred tax			
Deferred tax assets	V.24	696,275,204.16	734,664,115.92
Total assets		**356,128,420,823.29**	**304,325,736,060.02**

Prepared by: Hua Xia Bank Co., Ltd. Unit: RMB yuan

Item	Notes	December 31, 2005	December 31, 2004
Current liabilities:			
Short-term deposits	V.25	173,104,823,234.85	162,874,183,753.45
Short-term saving deposits	V.26	18,017,406,103.32	15,416,384,182.67
Discounted bills refinancing	V.27	1,326,996,470.99	2,504,367,276.00
Due to banks	V.28	21,426,952,248.09	13,264,115,113.12
Borrowing from banks	V.29	16,762,921.02	520,000,000.00
Amounts payable under reverse purchase agreements	V.30		1,280,000,000.00
Outward remittances		1,625,905,379.49	1,825,519,264.44
Inward remittance		254,536,437.44	273,615,492.90
Designated depositss	V.31		500,000.00
Short-term guaranteed deposits	V.32	61,086,386,470.47	33,907,329,822.63
Interest payable	V.33	1,478,240,890.25	1,045,008,717.54
Salaries payable		144,473,689.03	70,670,000.00
Welfare payable		49,295,932.55	33,243,485.99
Taxes payable	V.34	675,227,594.81	532,383,606.34
Dividend payable	V.35	3,850,000.00	150,000.00
Other payables	V.36	1,748,571,037.55	1,488,032,021.86
Deferred revenue	V.37	284,761,323.74	
Long-term liabilities due in one year	V.38		14,393,730.60
Other current liabilities	V.39	2,039,565,758.81	
Total current liabilities		**283,283,755,492.41**	**235,049,896,467.54**
Long-term liabilities:			
Long-term deposits	V.40	42,005,447,193.26	42,741,997,485.56
Long-term saving deposits	V.41	16,034,899,242.21	12,620,906,913.14
Long-term guaranteed deposits			7,954,600.00
International finance loans	V.42	101,309,805.15	45,985,604.10
Subordinated debts	V.43	4,250,000,000.00	4,250,000,000.00
Total long-term liabilities		**62,391,656,240.62**	**59,666,844,602.80**
Deferred tax			
Deferred tax liabilities			
Total liabilities		**345,675,411,733.03**	**294,716,741,070.34**
Shareholder's equity:			
Issued capital	V.44	4,200,000,000.00	4,200,000,000.00
Capital reserve	V.45	3,759,619,618.71	3,759,619,618.71
Surplus reserve	V.46	742,253,570.75	548,952,305.66
Including: public welfare reserve	V.46	210,427,523.58	145,993,768.55
General provisions	V.47	900,000,000.00	100,000,000.00
Retained profit	V.48	875,796,900.80	1,000,423,065.31
Including: cash dividend to be distributed		462,000,000.00	420,000,000.00
Cumulative translation adjustments		(24,661,000.00)	
Total shareholder equity		**10,453,009,090.26**	**9,608,994,989.68**
Total liabilities & shareholder's equity		**356,128,420,823.29**	**304,325,736,060.02**

Legal representative: **Liu Haiyan** President: **Wu Jian** Financial controller: **Liu Xifeng**

Annexes 2: Balance Sheet of HuaXia Bank in 2006

In RMB million

	December 31, 2006					
	Overdue /timely discharge	Within 3 months	3 months to 1 year	1 to5 years	Over 5 years	Total
Assets:						
Cash on hand and due from the Central Bank	66,373	-	-	-	-	66,373
Due from and placement with banks and other financial companies	4,930	2,579	264	-	-	7,773
Reverse repurchase agreements	-	26,090	3,646	-	-	29,736
Loan	4,505	44,815	115,690	66,852	21,941	253,803
Transaction based financial assets	-	952	1,581	59	177	2,769
Investment	147	3,596	16,423	35,825	21,898	77,889
Fixed assets	-	-	-	858	2,995	3,853
Other assets	8	60	540	2,247	236	3,091
Total assets	75,963	78,092	138,144	105,841	47,247	445,287
Liabilities:						
Due to banks and borrowings from banks	19,932	4,659	545	-	-	25,136
Repurchase agreements	-	22,213	3,530	-	-	25,743
Customer deposits	142,286	104,908	93,255	30,826	20	371,295
Bonds payable	-	-	-	4,250	2,000	6,250
Income tax payable	-	496	213	-	-	709
Other liabilities	60	2,354	1,053	540	271	4,278
Total liabilities	162,278	134,630	98,596	35,616	2,291	433,411
Net liquidity	(86,315)	(56,538)	39,548	70,225	44,956	11,876

Annexes 3: Balance Sheet of HuaXia Bank in 2007

In RMB million

	December 31, 2007					
	Overdue /timely discharge	Within 3 months	3 months to 1 year	1 to5 years	Over 5 years	Total
Assets:						
Cash on hand and due from the Central Bank	83,032	-	-	-	-	83,032
Due from and placement with banks and other financial companies	5,236	9,848	415	-	-	15,499
Reverse repurchase agreements	-	101,300	16,253	-	-	117,553
Loan	3,315	57,813	153,243	53,827	30,351	298,549
Transaction based financial assets	-	786	1,673	415	168	3,042
Investment	-	1,263	8,912	37,393	19,457	67,025
Derivative financial assets	-	-	4	2	-	6
Fixed assets	-	-	60	1,114	2,947	4,121
Other assets	3	925	1,234	1,569	-	3,731
Total assets	91,586	171,935	181,794	94,320	52,923	592,558
Liabilities:						
Due to banks and borrowings from banks	53,912	4,016	1,452	-	-	59,380
Repurchase agreements	-	36,551	12,049	-	-	48,600
Customer deposits	195,312	107,284	98,632	35,440	2,114	438,782
Derivative financial liabilities	-	2	24	10	-	36
Bonds payable	-	-	-	19,870	4,000	23,870
Income tax payable	-	517	221	-	-	738
Other liabilities	306	4,952	2,276	227	114	7,875
Total liabilities	249,530	153,322	114,654	55,547	6,228	579,281
Net liquidity	(157,944)	18,613	67,140	38,773	46,695	13,277

Annexes 4: Balance Sheet of HuaXia Bank in 2008, 2009

In RMB

Item	Note	31 December 2009	31 December 2008
Assets:			
Cash on hand and balances with central banks	IV.1	91,071,727,975.04	126,433,352,681.84
Due from banks and other financial institutions	IV.2	9,473,615,449.39	6,744,270,266.41
Precious metal		532,884.62	9,499,910.26
Placements with banks and other financial institutions	IV.3	22,889,762,110.00	16,160,000,000.00
Trading financial assets	IV.4	765,724,114.14	4,817,684,347.61
Derivative financial assets	IV.5	24,215,651.59	443,130,737.17
Reverse repurchase agreements	IV.6	209,952,003,989.19	135,341,883,856.87
Interest receivable	IV.7	1,574,324,472.59	1,833,481,421.15
Loans and advances to customers	IV.8	419,452,246,994.81	345,667,973,916.52
Available-for-sale financial assets	IV.9	11,640,738,471.95	17,946,796,549.07
Investments classified as receivables	IV.10	1,280,000,000.00	
Held-to-maturity investments	IV.11	69,228,616,535.55	69,097,348,530.39
Long-term equity investments	IV.12	81,818,134.62	81,817,934.89
Investment-oriented real estate	IV.13	259,351,415.48	267,792,844.04
Fixed assets	IV.14	4,469,127,966.37	4,110,343,223.15
Deferred income tax assets	IV.15	1,343,513,860.52	1,042,650,630.73
Other assets	IV.16	1,949,112,355.95	1,639,159,646.98
Total assets		**845,456,432,381.81**	**731,637,186,497.08**

In RMB

Item	Note	31 December 2009	31 December 2008
Liabilities:			
Due to banks and other financial institutions	IV.18	82,255,990,275.64	87,014,157,041.08
Placements from banks and other financial institutions	IV.19	6,121,271,469.95	7,688,163,560.07
Trading financial liabilities	IV.20	496,000.00	
Derivative financial liabilities	IV.5	7,836,803.81	458,372,890.02
Repurchase agreements	IV.21	107,758,508,809.76	85,987,087,588.81
Deposits from customers	IV.22	581,678,387,707.05	485,349,576,757.88
Employees' remuneration payable	IV.23	1,129,894,677.60	975,774,103.90
Taxes payable	IV.24	1,988,600,746.09	1,403,358,241.70
Interest payable	IV.25	3,343,623,556.01	4,509,783,812.88
Projected liabilities	IV.26	54,703,964.66	61,876,900.00
Bonds payable	IV.27	23,870,000,000.00	23,870,000,000.00
Deferred income tax liabilities	IV.15	8,562,714.97	221,738,424.55
Other liabilities	IV.28	7,004,370,441.65	6,675,940,286.49
Total liabilities		**815,222,247,167.19**	**704,215,829,607.38**
Shareholders' equity			
Share capital	IV.29	4,990,528,316.00	4,990,528,316.00
Capital reserve	IV.30	14,356,639,570.50	14,655,269,410.18
Less: Shares in stock			
Surplus reserve	IV.31	1,783,349,016.71	1,407,326,332.14
General reserve	IV.32	6,988,533,664.52	5,406,956,315.68
Retained profit	IV.33	2,115,134,646.89	961,276,515.70
Total shareholders' equity		**30,234,185,214.62**	**27,421,356,889.70**
Total liabilities and shareholders' equity		**845,456,432,381.81**	**731,637,186,497.08**

Annexes 5: Balance Sheet of HuaXia Bank in 2010

31 December 2010

In RMB

Item	Note	At the end of the period		At the beginning of the period
		Consolidated	Parent company	
Assets:				
Cash on hand and balances with central banks	V. 1	141,399,550,009.36	141,387,869,599.92	91,071,727,975.04
Due from banks and other financial institutions	V. 2	7,529,858,290.74	7,529,046,690.74	9,473,615,449.39
Precious metal				532,884.62
Placements with banks and other financial institutions	V. 3	36,485,612,200.00	36,485,612,200.00	22,889,762,110.00
Held-for-trading financial assets	V. 4	106,446,265.00	106,446,265.00	765,724,114.14
Derivative financial assets	V. 5	26,053,598.57	26,053,598.57	24,215,651.59
Reverse repurchase agreements	V. 6	240,084,250,169.41	240,084,250,169.41	209,952,003,989.19
Interest receivable	V. 7	2,917,283,614.95	2,917,283,614.95	1,574,324,472.59
Loans and advances to customers	V. 8	514,863,428,181.77	514,863,428,181.77	419,452,246,994.81
Available-for-sale financial assets	V. 9	14,859,482,016.40	14,859,482,016.40	11,640,738,471.95
Held-to-maturity investments	V. 10	66,295,430,284.80	66,295,430,284.80	69,228,616,535.55
Investments classified as receivables	V. 11	5,850,000,000.00	5,850,000,000.00	1,280,000,000.00
Long-term equity investments	V. 12	81,798,511.34	181,798,511.34	81,818,134.62
Investment-oriented real estate	V. 13	39,129,049.41	39,129,049.41	259,351,415.48
Fixed assets	V. 14	5,900,665,595.23	5,897,919,079.70	4,469,127,966.37
Deferred income tax assets	V. 15	1,693,338,001.56	1,692,306,568.94	1,343,513,860.52
Other assets	V. 16	2,098,116,444.86	2,093,657,528.99	1,949,112,355.95
Total assets		**1,040,230,442,233.40**	**1,040,309,713,359.94**	**845,456,432,381.81**

In RMB

Item	Note	At the end of the period		At the beginning of the period
		Consolidated	Parent company	
Liabilities:				
Due to central banks				
Due to banks and other financial institutions	V. 18	93,579,712,379.03	93,671,144,224.47	82,255,990,275.64
Placements from banks and other financial institutions	V. 19	10,983,960,411.25	10,983,960,411.25	6,121,271,469.95
Held-for-trading financial liabilities	V. 20			496,000.00
Derivative financial liabilities	V. 5	1,421,141.27	1,421,141.27	7,836,803.81
Repurchase agreements	V. 21	89,866,546,922.56	89,866,546,922.56	107,758,508,809.76
Deposits from customers	V. 22	767,622,249,016.94	767,609,032,737.43	581,678,387,707.05
Employees' remuneration payable	V. 23	2,055,211,542.69	2,054,917,695.06	1,129,894,677.60
Taxes payable	V. 24	2,463,161,534.84	2,463,110,420.64	1,988,600,746.09
Interest payable	V. 25	4,879,027,891.34	4,879,484,837.98	3,343,623,556.01
Projected liabilities	V. 26	63,518,291.50	63,518,291.50	54,703,964.66
Bonds payable	V. 27	24,020,000,000.00	24,020,000,000.00	23,870,000,000.00
Deferred income tax liabilities	V. 15	6,513,399.65	6,513,399.65	8,562,714.97
Other liabilities	V. 28	9,193,239,536.06	9,190,683,309.87	7,004,370,441.65
Total liabilities		**1,004,734,562,067.13**	**1,004,810,333,391.68**	**815,222,247,167.19**
Shareholders' equity				
Share capital	V. 29	4,990,528,316.00	4,990,528,316.00	4,990,528,316.00
Capital reserve	V. 30	14,277,520,713.50	14,277,520,713.50	14,356,639,570.50
Less: Shares in stock				
Surplus reserve	V. 31	2,382,657,245.88	2,382,657,245.88	1,783,349,016.71
General reserve	V. 32	8,410,013,782.14	8,410,013,782.14	6,988,533,664.52
Retained profit	V. 33	5,435,160,108.75	5,438,659,910.74	2,115,134,646.89
Total shareholders' equity		**35,495,880,166.27**	**35,499,379,968.26**	**30,234,185,214.62**
Total liabilities and shareholders' equity		**1,040,230,442,233.40**	**1,040,309,713,359.94**	**845,456,432,381.81**

Annexes 6: Balance Sheet of HuaXia Bank in 2011

31 December 2011

Prepared by: Hua Xia Bank Co., Limited

In RMB

Item	Note	At the end of the period		At the beginning of the period	
		Consolidated	Company	Consolidated	Company
Assets:					
Cash on hand and balances with central banks	V. 1	172,473,379,378.15	172,391,075,295.95	141,399,550,009.36	141,387,869,599.92
Due from banks and other financial institutions	V. 2	101,662,126,216.61	101,603,946,706.71	7,529,858,290.74	7,529,046,690.74
Precious metal		52,961,741.96	52,961,741.96		
Placements with banks and other financial institutions	V. 3	29,935,629,000.00	29,935,629,000.00	36,485,612,200.00	36,485,612,200.00
Held-for-trading financial assets	V. 4	4,004,590,925.61	4,004,590,925.61	106,446,265.00	106,446,265.00
Derivative financial assets	V. 5	201,841,023.09	201,841,023.09	26,053,598.57	26,053,598.57
Reverse repurchase agreements	V. 6	197,867,971,987.55	197,867,971,987.55	240,084,250,169.41	240,084,250,169.41
Interest receivable	V. 7	5,635,045,171.37	5,634,676,486.49	2,917,283,614.95	2,917,283,614.95
Loans and advances to customers	V. 8	594,204,100,217.26	594,072,488,093.24	514,863,428,181.77	514,863,428,181.77
Available-for-sale financial assets	V. 9	28,488,363,138.35	28,488,363,138.35	14,859,482,016.40	14,859,482,016.40
Held-to-maturity investments	V. 10	93,800,841,947.10	93,800,841,947.10	66,295,430,284.80	66,295,430,284.80
Investments classified as receivables	V. 11	3,500,000,000.00	3,500,000,000.00	5,850,000,000.00	5,850,000,000.00
Long-term equity investments	V. 12	81,773,844.93	251,773,844.93	81,798,511.34	181,798,511.34
Investment-oriented real estate	V. 13	55,039,049.41	55,039,049.41	39,129,049.41	39,129,049.41
Fixed assets	V. 14	6,745,585,115.56	6,737,661,528.80	5,900,665,595.23	5,897,919,079.70
Intangible assets	V. 15	94,489,657.97	94,489,657.97		
Deferred income tax assets	V. 16	2,795,192,441.15	2,792,434,031.89	1,693,338,001.56	1,692,306,568.94
Other assets	V. 17	2,542,250,711.49	2,524,778,978.27	2,098,116,444.86	2,093,657,528.99
Total assets		**1,244,141,181,567.56**	**1,244,010,563,439.32**	**1,040,230,442,233.40**	**1,040,309,713,359.94**

In RMB

		At the end of the period		At the beginning of the period	
Item	**Note**	**Consolidated**	**Company**	**Consolidated**	**Company**
Liabilities:					
Due to central banks					
Due to banks and other financial institutions	V. 19	135,645,158,236.29	136,048,279,566.35	93,579,712,379.03	93,671,144,224.47
Placements from banks and other financial institutions	V. 20	26,958,473,357.29	26,958,473,357.29	10,983,960,411.25	10,983,960,411.25
Held-for-trading financial liabilities	V. 21	50,848,200.00	50,848,200.00		
Derivative financial liabilities	V. 5	192,122,704.88	192,122,704.88	1,421,141.27	1,421,141.27
Repurchase agreements	V. 22	78,326,791,849.13	78,326,791,849.13	89,866,546,922.56	89,866,546,922.56
Deposits from customers	V. 23	896,023,653,633.62	895,514,042,436.09	767,622,249,016.94	767,609,032,737.43
Employees' remuneration payable	V. 24	3,092,041,218.26	3,090,955,407.24	2,055,211,542.69	2,054,917,695.06
Taxes payable	V. 25	3,847,301,926.34	3,847,215,321.97	2,463,161,534.84	2,463,110,420.64
Interest payable	V. 26	7,780,606,452.58	7,779,848,684.14	4,879,027,891.34	4,879,484,837.98
Projected liabilities	V. 27	3,189,300.00	3,189,300.00	63,518,291.50	63,518,291.50
Bonds payable	V. 28	22,020,000,000.00	22,020,000,000.00	24,020,000,000.00	24,020,000,000.00
Deferred income tax liabilities	V. 16	51,504,745.43	51,504,745.43	6,513,399.65	6,513,399.65
Other liabilities	V. 29	6,219,367,031.95	6,217,228,067.15	9,193,239,536.06	9,190,683,309.87
Total liabilities		**1,180,211,058,655.77**	**1,180,100,499,639.67**	**1,004,734,562,067.13**	**1,004,810,333,391.68**
Shareholders' equity:					
Share capital	V. 30	6,849,725,776.00	6,849,725,776.00	4,990,528,316.00	4,990,528,316.00
Capital reserve	V. 31	32,599,699,858.71	32,599,699,858.71	14,277,520,713.50	14,277,520,713.50
Less: Shares in stock					
Surplus reserve	V. 32	3,305,398,534.82	3,305,398,534.82	2,382,657,245.88	2,382,657,245.88
General reserve	V. 33	9,792,940,285.61	9,792,940,285.61	8,410,013,782.14	8,410,013,782.14
Retained profit	V. 34	11,353,320,230.27	11,362,299,344.51	5,435,160,108.75	5,438,659,910.74
Total equity attributable to shareholders of the parent company		63,901,084,685.41	63,910,063,799.65	35,495,880,166.27	35,499,379,968.26
Minority interest		29,038,226.38			
Total shareholders' equity		**63,930,122,911.79**	**63,910,063,799.65**	**35,495,880,166.27**	**35,499,379,968.26**
Total liabilities and shareholders' equity		**1,244,141,181,567.56**	**1,244,010,563,439.32**	**1,040,230,442,233.40**	**1,040,309,713,359.94**

Annexes 7: Balance Sheet of HuaXia Bank in 2012

Prepared by: Hua Xia Bank Co., Limited **31 December 2012** **In RMB**

Item	Note	At the end of the period		At the beginning of the period	
		Consolidated	Company	Consolidated	Company
Assets:					
Cash on hand and balances with central banks	V. 1	227,152,403,041.58	226,958,750,086.96	172,473,379,378.15	172,391,075,295.95
Due from banks and other financial institutions	V. 2	87,408,385,812.95	87,208,870,398.73	101,662,126,216.61	101,603,946,708.71
Precious metal		8,694,909.00	8,694,909.00	52,961,741.96	52,961,741.96
Placements with banks and other financial institutions	V. 3	31,434,404,076.99	31,434,404,076.99	29,935,629,000.00	29,935,629,000.00
Held-for-trading financial assets	V. 4	9,757,026,326.63	9,757,026,326.63	4,004,590,925.61	4,004,590,925.61
Derivative financial assets	V. 5	170,915,368.00	170,915,368.00	201,841,023.09	201,841,023.09
Financial assets under reverse repurchase agreements	V. 6	239,108,850,716.99	239,108,850,716.99	197,867,971,987.55	197,867,971,987.55
Interest receivable	V. 7	6,228,468,947.73	6,226,738,215.04	5,635,045,171.37	5,634,676,486.49
Loans and advances to customers	V. 8	699,861,279,356.71	699,144,138,992.78	594,204,100,217.26	594,072,488,093.24
Available-for-sale financial assets	V. 9	59,165,524,662.04	59,165,524,662.04	28,488,363,138.35	28,488,363,138.35
Held-to-maturity investments	V. 10	113,456,137,859.86	113,456,137,859.86	93,800,841,947.10	93,800,841,947.10
Investments classified as receivables	V. 11	1,000,000,000.00	1,000,000,000.00	3,500,000,000.00	3,500,000,000.00
Long-term equity investments	V. 12	81,768,394.02	251,768,394.02	81,773,844.93	251,773,844.93
Investment real estate	V. 13	16,737,857.14	16,737,857.14	55,039,049.41	55,039,049.41
Fixed assets	V. 14	7,659,163,756.69	7,648,332,703.88	6,745,585,115.56	6,737,661,528.80
Intangible assets	V. 15	92,092,457.35	92,092,457.35	94,489,657.97	94,489,657.97
Deferred income tax assets	V. 16	3,322,410,438.09	3,320,575,938.76	2,795,192,441.15	2,792,434,031.89
Other assets	V. 17	2,935,799,633.90	2,921,645,678.99	2,542,250,711.49	2,524,778,978.27
Total assets		**1,488,860,063,615.67**	**1,487,891,204,643.16**	**1,244,141,181,567.56**	**1,244,010,563,439.32**

Prepared by: Hua Xia Bank Co., Limited | 31 December 2012 | In RMB

Item	Note	At the end of the period		At the beginning of the period	
		Consolidated	Company	Consolidated	Company
Liabilities:					
Due to central banks	V. 19	30,000,000.00			
Due from banks and other financial institutions	V. 20	229,254,966,055.88	229,443,465,198.87	135,645,158,236.29	136,048,279,566.35
Placements from banks and other financial institutions	V. 21	71,814,622,567.02	71,857,022,567.02	26,958,473,357.29	26,958,473,357.29
Held-for-trading financial liabilities	V. 22			50,848,200.00	50,848,200.00
Derivative financial liabilities	V. 5	159,432,248.17	159,432,248.17	192,122,704.88	192,122,704.88
Financial assets under repurchase agreements	V. 23	47,422,356,302.31	47,422,356,302.31	78,326,791,849.13	78,326,791,849.13
Deposits from customers	V. 24	1,036,000,111,751.58	1,034,861,675,461.33	896,023,653,633.62	895,514,042,436.09
Employees' remuneration payable	V. 25	4,181,414,236.64	4,179,136,671.36	3,092,041,218.26	3,090,955,407.24
Taxes and dues payable	V. 26	3,602,169,133.89	3,601,486,817.41	3,847,301,926.34	3,847,215,321.97
Interest payable	V. 27	9,184,845,834.19	9,180,805,816.04	7,780,606,452.58	7,779,848,684.14
Projected liabilities	V. 28	3,839,439.37	3,839,439.37	3,189,300.00	3,189,300.00
Bonds payable	V. 29	8,400,000,000.00	8,400,000,000.00	22,020,000,000.00	22,020,000,000.00
Deferred income tax liabilities	V. 16	43,178,368.41	43,178,368.41	51,504,745.43	51,504,745.43
Other liabilities	V. 30	4,040,503,467.43	4,036,573,421.55	6,219,367,031.95	6,217,228,067.15
Total liabilities		**1,414,137,439,404.89**	**1,413,188,972,311.84**	**1,180,211,058,655.77**	**1,180,100,499,639.67**
Shareholders' equity:					
Share capital	V. 31	6,849,725,776.00	6,849,725,776.00	6,849,725,776.00	6,849,725,776.00
Capital reserve	V. 32	32,308,973,787.81	32,308,973,787.81	32,599,699,858.71	32,599,699,858.71
Less: Shares in stock					
Surplus reserve	V. 33	4,584,931,139.48	4,584,931,139.48	3,305,398,534.82	3,305,398,534.82
General risk reserve	V. 34	12,948,940,285.61	12,948,940,285.61	9,792,940,285.61	9,792,940,285.61
Retained profit	V. 35	18,001,637,117.34	18,009,661,342.42	11,353,320,230.27	11,362,299,344.51
Total equity attributable to shareholders of the parent company		74,694,208,106.24	74,702,232,331.32	63,901,084,685.41	63,910,063,799.65
Minority interest		28,416,104.54		29,038,226.38	
Total shareholders' equity		**74,722,624,210.78**	**74,702,232,331.32**	**63,930,122,911.79**	**63,910,063,799.65**
Total liabilities and shareholders' equity		**1,488,860,063,615.67**	**1,487,891,204,643.16**	**1,244,141,181,567.56**	**1,244,010,563,439.32**

Annexes 8: Balance Sheet of HuaXia Bank in 2013, 2014

		The Group		The Bank	
	Note IX	31 December 2014	31 December 2013 (Restated)	31 December 2014	31 December 2013 (Restated)
Assets					
Cash on hand and balances with central banks	1	292,248	262,227	292,013	262,020
Due from banks and other financial institutions	2	62,666	40,204	62,568	40,134
Placements with banks and other financial institutions	3	19,108	21,606	19,108	21,606
Financial assets measured at fair value through profit or loss	4	9,066	8,699	9,066	8,699
Derivative financial assets	5	625	531	625	531
Financial assets under reverse repurchase agreements	6	123,136	155,094	123,136	155,094
Interest receivable	7	9,335	7,475	9,329	7,468
Loans and advances to customers	8	916,105	800,726	887,839	789,119
Available-for-sale financial assets	9	63,448	65,216	63,448	65,216
Held-to-maturity investments	10	136,277	109,265	136,277	109,265
Investments classified as receivables	11	201,134	183,926	201,134	183,926
Long-term equity investments	12	–	–	2,630	2,630
Fixed assets	13	9,359	8,072	9,347	8,060
Intangible assets	14	88	91	87	90
Deferred income tax assets	15	4,419	4,475	4,378	4,470
Other assets	16	4,614	4,840	4,402	3,934
Total assets		**1,851,628**	**1,672,447**	**1,825,387**	**1,662,262**

	Note IX	The Group 31 December 2014	The Group 31 December 2013 (Restated)	The Bank 31 December 2014	The Bank 31 December 2013 (Restated)
Liabilities					
Due to central banks	18	20,058	30	20,000	–
Due from banks and other financial institutions	19	284,340	278,986	284,714	280,112
Placements from banks and other financial institutions	20	42,638	35,538	22,264	27,842
Derivative financial liabilities	5	556	545	556	545
Financial assets under repurchase agreements	21	40,202	59,884	40,202	59,884
Deposits from customers	22	1,303,216	1,177,592	1,301,895	1,176,288
Employees' compensation payable	23	6,733	5,178	6,672	5,155
Taxes and dues payable	24	4,077	3,750	4,025	3,739
Interest payable	25	17,567	11,634	17,342	11,581
Projected liabilities	26	2	2	2	2
Debt certificates payable	27	23,839	8,400	23,839	8,400
Other liabilities	28	6,301	4,889	2,618	3,308
Total liabilities		**1,749,529**	**1,586,428**	**1,724,129**	**1,576,856**
Equity					
Share capital	29	8,905	8,905	8,905	8,905
Capital reserve	30	30,543	30,543	30,542	30,542
Other comprehensive income	43	81	(1,850)	81	(1,850)
Surplus reserve	31	6,134	4,585	6,134	4,585
General reserve	32	17,100	12,949	17,100	12,949
Retained profit	33	38,695	30,288	38,496	30,275
Total equity attributable to shareholders of the parent company		101,458	85,420	101,258	85,406
Minority interests		641	599	–	–
Total shareholders' equity		**102,099**	**86,019**	**101,258**	**85,406**
Total liabilities and equity		**1,851,628**	**1,672,447**	**1,825,387**	**1,662,262**

Annexes 9: Balance Sheet of HuaXia Bank in 2015, 2016

31 December 2016 (In RMB millions, unless otherwise stated)

		The Group		The Bank	
	Note VIII	31 December 2016	31 December 2015	31 December 2016	31 December 2015
Assets					
Cash on hand and balances with central banks	1	222,173	264,094	221,456	263,832
Due from banks and other financial institutions	2	133,780	49,494	133,663	48,994
Placements with banks and other financial institutions	3	15,868	30,972	15,868	30,972
Financial assets designated at fair value through profit or loss	4	4,939	11,872	4,939	11,872
Derivative financial assets	5	803	191	803	191
Financial assets held under resale agreements	6	122,032	245,297	122,032	245,297
Interest receivables	7	13,807	10,603	13,796	10,592
Loans and advances to customers	8	1,184,355	1,041,937	1,139,301	1,004,855
Available-for-sale financial assets	9	92,252	73,200	92,252	73,200
Held-to-maturity investments	10	345,593	194,543	345,593	194,543
Account receivable held for investment	11	197,378	77,460	196,478	77,460
Long-term equity investment	12	–	–	2,630	2,630
Fixed assets	13	11,372	11,252	11,341	11,218
Intangible assets	14	84	87	83	85
Deferred income tax assets	15	5,984	4,570	5,780	4,485
Other assets	16	5,815	5,032	5,426	4,595
Total assets		**2,356,235**	**2,020,604**	**2,311,441**	**1,984,821**

	Note VIII	31 December 2016	31 December 2015	31 December 2016	31 December 2015
Liabilities					
Due to central banks	18	108,005	30,027	108,000	30,000
Due to banks and other financial institutions	19	225,133	270,200	226,211	273,508
Placements from banks and other financial institutions	20	73,130	64,141	37,377	33,646
Derivative financial liabilities	5	1,093	169	1,093	169
Repurchase agreements	21	106,696	80,491	106,696	80,491
Deposits taken	22	1,368,300	1,351,663	1,366,008	1,350,000
Accrued payroll	23	8,157	7,525	8,052	7,448
Taxes and dues payable	24	5,454	4,383	5,313	4,326
Interest payable	25	14,655	15,681	14,294	15,433
Debt obligations payable	26	268,184	66,893	268,184	66,893
Other liabilities	27	24,455	11,043	18,885	5,731
Total liabilities		**2,203,262**	**1,902,216**	**2,160,113**	**1,867,645**
Equity					
Share capital	28	10,686	10,686	10,686	10,686
Other equity instruments	29	19,978	–	19,978	–
Of which: Preference shares		19,978	–	19,978	–
Capital reserve	30	28,762	28,762	28,761	28,761
Other comprehensive income	43	22	1,292	22	1,292
Surplus reserve	31	9,771	7,913	9,771	7,913
General reserve	32	24,605	21,451	24,269	21,427
Retained profit	33	58,360	47,574	57,841	47,097
Total equity attributable to shareholders of the parent company		**152,184**	**117,678**	**151,328**	**117,176**
Minority shareholders' equity		**789**	**710**	**–**	**–**
Total shareholders' equity		**152,973**	**118,388**	**151,328**	**117,176**
Total liabilities and equity		**2,356,235**	**2,020,604**	**2,311,441**	**1,984,821**

Annexes 10: Income Statement of HuaXia Bank in 2004, 2005

Prepared by: Hua Xia Bank Co., Ltd. Unit: RMB yuan

Items	Notes	Year of 2005	Year of 2004
I. Operating income		**13,794,472,809.37**	**10,826,803,821.89**
Interest income	*V.49*	10,476,754,854.27	8,271,464,149.39
Interest income on amounts due from financial institutions	*V.50*	1,170,492,305.95	902,793,968.41
Fee and commission income		297,200,326.71	223,507,786.95
Exchange gain		114,975,009.22	81,135,596.66
Investment gain	*V.51*	1,692,649,801.57	1,327,513,548.67
Other operating income		42,400,511.65	20,388,771.81
II. Operating cost		**11,005,321,346.02**	**8,534,795,506.04**
Interest expense	*V.52*	4,987,220,680.35	3,613,970,185.48
Interest on amounts due to financial institutions	*V.53*	992,901,876.96	856,890,682.33
Fee and commission expenses		98,775,443.17	64,391,338.81
Operating expenses		3,488,928,185.17	2,734,316,938.26
Other operating expenses	*V.54*	1,437,495,160.37	1,265,226,361.16
III. Business tax and surcharges	*V.55*	**604,878,453.58**	**474,567,809.77**
IV. Operating profit		**2,184,273,009.77**	**1,817,440,506.08**
Add: non-operating income	*V.56*	21,716,054.27	17,526,744.77
Less: non-operating expenses	*V.57*	203,260,486.35	174,290,519.29
V. Gross profit		**2,002,728,577.69**	**1,660,676,731.56**
Less: Corporate income tax	*V.58*	714,053,477.11	643,759,160.00
VI. Net profit		**1,288,675,100.58**	**1,016,917,571.56**

Annexes 11: Income Statement of HuaXia Bank in 2006, 2007

Items		Notes	2007	2006
I.	**Operating income**		**14,260,281,552.60**	**10,070,477,467.05**
	Net interest income	VII.34	11,247,091,158.13	7,386,212,401.99
	Interest income		22,877,082,815.09	15,292,123,817.92
	Interest expense		11,629,991,656.96	7,905,911,415.93
	Net service charge and commission income	VII.35	451,252,356.29	304,413,516.14
	Service charge and commission income		713,195,298.32	410,607,795.99
	Service charge and commission payment		261,942,942.03	106,194,279.85
	Investment income	VII.36	2,425,771,661.27	2,245,117,595.06
	Income from change of fair value	VII.37	(50,142,171.79)	9,878,765.04
	Exchange income		96,518,426.40	80,924,500.22
	Income from other businesses	VII.38	89,790,122.30	43,930,688.60
II.	**OPERATING EXPENSES**		**10,404,512,317.11**	**7,500,032,365.05**
	Business Taxes and Surcharges	VII.39	1,092,581,189.53	757,447,155.34
	Business and administrative expenses	VII.40	5,759,730,867.87	4,303,914,493.04
	Loss from impairment of assets	VII.41	3,543,352,226.61	2,429,125,416.62
	Principal business costs		8,848,033.10	9,545,300.05
III.	**OPERATING PROFIT**		**3,855,769,235.49**	**2,570,445,102.00**
	Plus: Non-operating income	VII.42	32,407,733.60	34,638,481.39
	Less: Non-operating expenses	VII.43	67,382,246.51	193,853,997.68
IV.	**TOTAL PROFIT**		**3,820,794,722.58**	**2,411,229,585.71**
	Less: Income tax expenses	VII.44	1,719,605,493.90	954,186,312.81
V.	**NET PROFIT**		**2,101,189,228.68**	**1,457,043,272.90**
	Net profit attributable to the owner of the parent company		2,101,189,228.68	1,457,043,272.90
	Minority shareholders' equity			
VI.	**EARNINGS PER SHARE**			
	(I) Basic earnings per share	VII.45	0.5003	0.3469
	(II) Diluted earnings per share	VII.45	0.5003	0.3469

Annexes 12: Income Statement of HuaXia Bank in 2008, 2009

In RMB

Item	Note	Year ended 31 December 2009	Year ended 31 December 2008
I. Operating income		**17,129,634,873.02**	**17,611,365,856.00**
Net interest income	IV.34	15,807,187,606.44	16,484,791,120.47
Interest income		32,506,467,609.37	37,394,720,327.34
Interest expense		16,699,280,002.93	20,909,929,206.87
Net fee and commission income	IV.36	1,024,434,531.36	822,799,697.54
Fee and commission income		1,303,901,402.45	1,063,495,557.00
Fee and commission expense		279,466,871.09	240,695,859.46
Investment income	IV.36	101,296,947.77	(43,279,988.35)
Income from changes in fair value	IV.37	(43,869,393.48)	67,658,230.79
Foreign exchange gains		127,317,825.26	135,930,299.69
Other operating income	IV.38	113,267,355.67	143,466,495.86
II. Operating expenses		**12,318,369,892.84**	**13,577,476,425.27**
Business tax and surcharges	IV.39	1,247,371,302.51	1,382,358,887.24
General and administrative expenses	IV.40	7,687,892,767.76	7,292,068,938.23
Impairment losses on assets	IV.41	3,377,016,000.91	4,894,309,282.58
Other operating costs		6,089,821.66	8,739,317.22
III. Operating profit		**4,811,264,980.18**	**4,033,889,430.73**
Add: Non-operating income	IV.42	52,016,907.51	23,245,410.64
Less: Non-operating expenses	IV.43	35,695,636.72	50,591,886.13
IV. Gross profit		**4,827,586,250.97**	**4,006,542,955.24**
Less: Income tax expense	IV.44	1,067,359,405.29	935,704,608.84
V. Net profit		**3,760,226,845.68**	**3,070,838,346.40**
VI. Earnings per share			
i. Basic earning per share	IV.45	0.7535	0.7036
ii. Diluted earning per share	IV.45	0.7535	0.7036
VII. Other comprehensive income	**IV.46**	**(298,629,839.68)**	**376,858,930.15**
VIII. Total comprehensive income		**3,461,597,006.00**	**3,447,697,276.55**

Annexes 13: Income Statement of HuaXia Bank in 2010, 2011

In RMB

Item	Note	Year ended 31 December 2011		Year ended 31 December 2010	
		Consolidated	Company	Consolidated	Company
I. Operating income		**33,543,795,435.33**	**33,534,727,113.32**	**24,478,894,627.14**	**24,478,244,504.37**
Net interest income	V. 35	30,292,730,784.56	30,283,676,190.43	22,760,005,495.95	22,759,355,539.38
Interest income		62,535,964,002.30	62,533,267,471.33	43,368,300,405.22	43,368,256,873.31
Interest expense		32,243,233,217.74	32,249,591,280.90	20,608,294,909.27	20,608,901,333.93
Net fee and commission income	V. 36	2,975,500,169.95	2,975,486,532.07	1,444,871,949.51	1,444,871,783.31
Fee and commission income		3,394,263,278.51	3,394,213,136.10	1,791,679,806.36	1,791,679,612.66
Fee and commission expense		418,763,108.56	418,726,604.03	346,807,856.85	346,807,829.35
Investment income	V. 37	-22,048,625.17	-22,048,625.17	-19,197,608.49	-19,197,608.49
Of which: Income from investments in associates and joint ventures					
Income from changes in fair value	V. 38	-14,023,074.34	-14,023,074.34	22,788,088.50	22,788,088.50
Foreign exchange gains		167,159,453.04	167,159,453.04	154,813,931.43	154,813,931.43
Other operating income	V. 39	144,476,727.29	144,476,637.29	115,612,770.24	115,612,770.24
II. Operating expenses		**21,020,284,475.07**	**21,003,048,090.55**	**16,451,051,164.15**	**16,445,869,806.77**
Business tax and surcharges	V. 40	2,347,591,390.59	2,347,520,894.76	1,601,863,889.18	1,601,863,863.68
General and administrative expenses	V. 41	14,050,050,698.66	14,034,214,620.55	10,626,583,757.72	10,621,402,425.84
Impairment losses on assets	V. 42	4,610,346,591.08	4,609,016,780.50	4,212,009,489.38	4,212,009,489.38
Other operating costs		12,295,794.74	12,295,794.74	10,594,027.87	10,594,027.87
III. Operating profit		**12,523,510,960.26**	**12,531,679,022.77**	**8,027,843,462.99**	**8,032,374,697.60**
Add: Non-operating income	V. 43	37,650,545.46	37,650,545.46	59,296,037.14	59,296,037.14
Less: Non-operating expenses	V. 44	33,762,293.31	33,762,293.31	79,185,531.63	79,185,531.63
IV. Gross profit		**12,527,399,212.41**	**12,535,567,274.92**	**8,007,953,968.50**	**8,012,485,203.11**
Less: Income tax expense	V. 45	3,306,427,408.90	3,308,154,385.54	2,018,371,478.77	2,019,402,911.39
V. Net profit		**9,220,971,803.51**	**9,227,412,889.38**	**5,989,582,489.73**	**5,993,082,291.72**
Net profit attributable to owners of the parent company		9,221,933,577.13	9,227,412,889.38	5,989,582,489.73	5,993,082,291.72
Minority interest		-961,773.62			
VI. Earnings per share					
i. Basic earnings per share	V. 46	1.4802		1.2002	
ii. Diluted earnings per share	V. 46	1.4802		1.2002	
VII. Other comprehensive income	V. 47	**74,736,135.96**	**74,736,135.96**	**-79,118,857.00**	**-79,118,857.00**
VIII. Total comprehensive income		**9,295,707,939.47**	**9,302,149,025.34**	**5,910,463,632.73**	**5,913,963,434.72**
Total comprehensive income attributable to shareholders of the parent company		9,296,669,713.09	9,302,149,025.34	5,910,463,632.73	5,913,963,434.72
Total comprehensive income attributable to minority shareholders of the parent company		-961,773.62			

Annexes 14: Income Statement of HuaXia Bank in 2011, 2012

Prepared by: Hua Xia Bank Co., Limited **For the year ended 31 December 2012** **In RMB**

Item	Note	Year ended 31 December 2012		Year ended 31 December 2011	
		Consolidated	Company	Consolidated	Company
I. Operating income		**39,776,951,110.25**	**39,737,051,341.41**	**33,543,795,435.33**	**33,534,727,113.32**
Net interest income	V. 36	35,343,546,946.25	35,304,057,692.54	30,292,730,784.56	30,283,676,190.43
Interest income		73,394,701,392.26	73,358,144,684.12	62,535,964,002.30	62,533,267,471.33
Interest expense		38,051,154,446.01	38,054,086,991.58	32,243,233,217.74	32,249,591,280.90
Net fee and commission income	V. 37	4,045,759,595.58	4,045,349,080.45	2,975,500,169.95	2,975,486,532.07
Fee and commision income		4,443,505,667.32	4,443,050,554.09	3,394,263,278.51	3,394,213,136.10
Fee and commision expense		397,746,071.74	397,701,473.64	418,763,108.56	418,726,604.03
Investment income	V. 38	-17,456,737.16	-17,456,737.16	-22,048,625.17	-22,048,625.17
Of which: Income from investments in associates and joint ventures					
Income from changes in fair value	V. 39	8,514,994.58	8,514,994.58	-14,023,074.34	-14,023,074.34
Foreign exchange gains		212,513,347.98	212,513,347.98	167,159,453.04	167,159,453.04
Other operating income	V. 40	184,072,963.02	184,072,963.02	144,476,727.29	144,476,637.29
II. Operating expenses		**22,575,807,641.32**	**22,531,350,169.56**	**21,020,284,475.07**	**21,003,048,090.55**
Business tax and surcharges	V. 41	2,842,943,307.73	2,841,801,268.35	2,347,591,390.59	2,347,520,894.76
General and administrative expenses	V. 42	15,892,348,541.60	15,856,722,034.35	14,050,050,698.66	14,034,214,620.55
Impairment losses on assets	V. 43	3,818,778,760.34	3,811,089,835.21	4,610,346,591.08	4,609,016,780.50
Other operating costs		21,737,031.65	21,737,031.65	12,295,794.74	12,295,794.74
III. Operating profit		**17,201,143,468.93**	**17,206,701,171.85**	**12,523,510,960.26**	**12,531,679,022.77**
Add: Non-operating income	V. 44	78,117,782.90	72,217,782.90	37,650,545.46	37,650,545.46
Less: Non-operating expenses	V. 45	27,780,559.26	27,770,559.26	33,762,293.31	33,762,293.31
IV. Total profit		**17,251,480,692.57**	**17,250,148,395.49**	**12,527,399,212.41**	**12,535,567,274.92**
Less: Income tax expense	V. 46	4,455,821,878.68	4,454,822,348.92	3,306,427,408.90	3,308,154,385.54
V. Net profit		**12,795,658,813.89**	**12,795,326,046.57**	**9,220,971,803.51**	**9,227,412,889.38**
Net profit attributable to owners of the parent company		**12,796,280,935.73**	**12,795,326,046.57**	**9,221,933,577.13**	**9,227,412,889.38**
Minority interest		-622,121.84		-961,773.62	
VI. Earnings per share					
i. Basic earnings per share	V. 47	1.8681		1.4802	
ii. Diluted earnings per share	V. 47	1.8681		1.4802	
VII. Other comprehensive income	**V. 48**	**-290,726,070.90**	**-290,726,070.90**	**74,736,135.96**	**74,736,135.96**
VIII. Total comprehensive income		**12,504,932,742.99**	**12,504,599,975.67**	**9,295,707,939.47**	**9,302,149,025.34**
Total comprehensive income attributable to shareholders of the parent company		12,505,554,864.83	12,504,599,975.67	9,296,669,713.09	9,302,149,025.34
Total comprehensive income attributable to minority shareholders of the parent company		-622,121.84		-961,773.62	

Annexes 15: Income Statement of HuaXia Bank in 2013, 2014

For the year ended 31 December 2014 (In RMB millions, unless otherwise stated)

		The Group		The Bank	
	Note IX	2014	2013	2014	2013
I. Operating income		**54,885**	**45,219**	**54,137**	**44,978**
Net interest income	34	46,241	38,902	45,755	38,703
Interest income		94,362	76,253	92,945	75,963
Interest expense		(48,121)	(37,351)	(47,190)	(37,260)
Net fee and commission income	35	7,652	6,312	7,389	6,268
Fee and commission income		8,681	6,861	8,401	6,813
Fee and commission expense		(1,029)	(549)	(1,012)	(545)
Investment gains/(losses)	36	580	(116)	580	(116)
Gains/(losses) from changes in fair value	37	182	(50)	182	(50)
Foreign exchange gains	38	208	149	208	149
Other operating income		22	22	23	24
II. Operating expenses		**(30,994)**	**(24,559)**	**(30,523)**	**(24,339)**
Business tax and surcharges	39	(3,885)	(3,246)	(3,857)	(3,235)
General and administrative expenses	40	(20,622)	(17,604)	(20,452)	(17,515)
Impairment losses on assets	41	(6,276)	(3,690)	(6,003)	(3,570)
Other operating costs		(211)	(19)	(211)	(19)
III. Operating profit		**23,891**	**20,660**	**23,614**	**20,639**
Plus: Non-operating income		172	70	139	58
Less: Non-operating expenses		(60)	(25)	(58)	(25)
IV. Total profit		**24,003**	**20,705**	**23,695**	**20,672**
Less: Income tax expense	42	(5,980)	(5,194)	(5,900)	(5,187)
V. Net profit		**18,023**	**15,511**	**17,795**	**15,485**
Net Profit attributable to the parent company		17,981	15,506	17,795	15,485
Minority interest		42	5	–	–
VI. After-tax other comprehensive income	43	**1,931**	**(1,562)**	**1,931**	**(1,562)**
I.Other comprehensive income not to be classified as profit/loss		–	–	–	–
II.Other comprehensive income to be classified as profit/loss					
1.Profit/loss from changes in fair value of available-for-sale financial assets		1,931	(1,562)	1,931	(1,562)
After-tax other comprehensive income attributable to shareholders of the parent company		1,931	(1,562)	1,931	(1,562)
After-tax other comprehensive income attributable to minority shareholders		–	–	–	–
VII. Total comprehensive income		**19,954**	**13,949**	**19,726**	**13,923**
Total comprehensive income attributable to shareholders of the parent company		19,912	13,944	19,726	13,923
Total comprehensive income attributable to minority shareholders		42	5	–	–
VIII. Earnings per share					
Basic earnings per share (RMB yuan)	44	2.02	1.74		

Annexes 16: Income Statement of HuaXia Bank in 2015, 2016

For the year ended 31 December 2016 (In RMB millions, unless otherwise stated)

	Note VIII	The Group 2016	The Group 2015	The Bank 2016	The Bank 2015
I. Operating income		**64,025**	**58,844**	**62,652**	**57,901**
Net interest income	34	48,989	46,083	48,176	45,468
Interest income		88,242	91,324	86,191	89,461
Interest expense		(39,253)	(45,241)	(38,015)	(43,993)
Net fee and commission income	35	14,656	12,372	14,103	12,092
Fee and commission income		16,124	13,435	15,551	13,131
Fee and commission expenses		(1,468)	(1,063)	(1,448)	(1,039)
Investment gains/(losses)	36	717	122	717	122
Gains/(losses) from the changes in fair value	37	(494)	65	(494)	65
Exchange gain	38	130	128	130	128
Other operating income		27	74	20	26
II. Operating expenses		**(37,906)**	**(33,910)**	**(37,084)**	**(33,433)**
Taxes and surcharges	39	(1,941)	(4,446)	(1,880)	(4,413)
General and administrative expenses	40	(22,086)	(20,466)	(21,878)	(20,281)
Asset impairment loss	41	(13,865)	(8,979)	(13,313)	(8,720)
Other business costs		(14)	(19)	(13)	(19)
III. Operating profit		**26,119**	**24,934**	**25,568**	**24,468**
Plus: Non-operating income		172	331	141	305
Less: Non-operating expenses		(48)	(60)	(47)	(60)
IV. Total profit		**26,243**	**25,205**	**25,662**	**24,713**
Less: Income tax expense	42	(6,487)	(6,253)	(6,339)	(6,132)
V. Net profit		**19,756**	**18,952**	**19,323**	**18,581**
Net Profit attributable to the parent company		19,677	18,883	19,323	18,581
Minority shareholders' gain/loss		79	69	–	–
V. After-tax other comprehensive income	43	**(1,270)**	**1,211**	**(1,270)**	**1,211**
i. Other comprehensive income not to be classified as profit/loss		–	–	–	–
ii. Other comprehensive income to be classified as profit/loss					
1. Profit/loss from changes in fair value of available- for-sale financial assets		(1,270)	1,211	(1,270)	1,211
After-tax other comprehensive income attributable to shareholders of the parent company		(1,270)	1,211	(1,270)	1,211
After-tax other comprehensive income attributable to minority shareholders		–	–	–	–
VII. Total comprehensive income		**18,486**	**20,163**	**18,053**	**19,792**
Total comprehensive income attributable to shareholders of the parent company		18,407	20,094	18,053	19,792
Total comprehensive income attributable to minority shareholders		79	69	–	–
VIII. Earnings per share					
Basic earnings per share (RMB yuan/share)	44	1.84	1.77		